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Journal of Financial and Monetary Economics is edited by the "Victor Slăvescu" Centre for Financial and Monetary Research of the Romanian Academy since 2014. It is an annual review that has as main objective the dissemination of theoretical and applied economic research presented annually by the researcher in Romania and abroad in the international scientific conference "Financial and Monetary Economics".

Research published scientific research aimed both economic development and clarification of the current economic phenomena and processes. As a result, conclusions and proposals offered by the authors address both academic - scientists, teachers and students - as well as decision makers. We emphasize the importance of scientific contributions, together with the clarity of concepts, methodologies and conclusions offered.

Contents

OPENING SESION……..7

Challenges for Fiscal Policy after the Mitigation of the COVID-19 Pandemic……8
Ionel LEONIDA
Cosmin *CEPOI*

SECTION I. Fiscal Issues in the Globalized Economy & Financial Microeconomics……16

IDENTIFICATION OF THE MAIN PROBLEMS OF THE SOCIO-ECONOMIC DIMENSION AT THE EU27 LEVEL..17
Alina Georgeta AILINCĂ

Poverty, Education and Economic Growth: A Case Study of Western Balkan Countries……..30
Iges BANDA
Zainab WILLIAMS-ADEYANJU
Dea SKRAME

Theoretical and Practical Approaches to Public Procurement Sustainability……44
Iulia CAPRIAN
Liliana BUZILĂ

Money Laundering, Public Accounting and Auditing in Albania……54
Albana DEMI (MOSHO)
Mirsa DANI
Eranda KUCI

Share of the Work in the Net Added Value Produced in the National Economy……61
Monica Florica DUTCAȘ
Denisa-Gabriela GROSU

Evaluating the Relationship Between Anti-Money Laundering Policies and per capita Consumption Expenditure - A Fresh Inside from Middle-Income Countries……..61
Laeeq Razzak JANJUA
Erraiteb MERYEM
Maryum Sajid RAJA

The Labor Market in the Southwest Oltenia Region of Romania……..……..84
Elena SOARE
Iuliana DOBRE

The Impact of the Fiscal Policy Change on the Main Macroeconomic Variables……..…..93
Cosmin TRIFU
Florin BLAGA
Georgian Dănuț MIHAI
George Alexandru NEACȘU
Antonela BICHIR-GHELASE

SECTION II. FINANCIAL AND MONETARY CHALLENGES……98
Erjola BARBULLUSHI

Investigating the Dividend Policy Determinants Using a Poisson Regression……108
Cosmin Octavian CEPOI
Ionel LEONIDA

Review of Financial Literacy Education Programs in Romania……114
Tudor CIUMARA

Financial Digitalization for Consumers, Companies and Financial Institutions – Key Transformations…….120
Tudor CIUMARA

The Concept of the Credit Potential of the Bank and the Factors that Determine it……..……124
Victoria COCIUG
Victoria POSTOLACHE

Challenges of Corporate Governance: A Stakeholder Perspective in the Emerging Economy……..……131
Hiranya DISSANAYAKE
Anuradha IDDAGODA
Hmum ABESIRIWARDHANA

The European Scoreboard and the Macroeconomic Situation of Romania……..……139
Cătălin DRĂGOI

The Basic Financial Features of the Current Global Economic Crisis……160
Ivan LUCHIAN
Angela FILIP

Theoretical Aspects Regarding Sovereign Debt and Indebtedness……170
Camelia MILEA

The Insurance Instrument, a Pillar of Support for the Financial Industry and Society……..178
Iuliana MILITARU

Pandemic. A Non-Linear Analysis……184
Cosmin TRIFU
Florin BLAGA
Georgian Dănuț MIHAI

Modeling the Process of Implementing Banking Innovations in a Digital Economy……..190
Victoria POSTOLACHE
Natalia BRANAȘCO

SECTION III. SUSTAINABLE DEVELOPMENT AND INCLUSIVE ECONOMIC GROWTH……198

Building a Competitive, Low-Carbon and Climate Change-Resilient Economy……...199
Georgiana CHIȚIGA

FACTORS DRIVING ALBANIAN STUDENTS STUDY ABROAD……210
Alba Demneri KRUJA
Sindi TACE

Choosing and Justifying a Public Project……...223
Adrian Eugen DINU

Assessment of Residents to Tourism Development and Their Environmental Attitudes……231
Parashqevi DRAÇI
Gentiana KRAJA

Circular Economy - the Premises of Business Models Circular……...238
Silvia Elena ISACHI

The Dynamic of the Foreign Direct Investment Level in Western Balkan Countries and its Impact on Economic Growth……..246
Enida ISTREFI (ZHUGRI)
Juliana IMERAJ

Financial, Economic, Digital and Environmental Inclusion in the Context of Global Agreements……251
Otilia Elena MANTA

The Transforming Role of Developing Countries in Global Trade……...264
Eduard MARINOV

Are there any Asymmetric Responses of Oil Price Shocks to GDP Growth? A REVIEW OF LITERATURE….276
Md Ataul Gani OSMANI
Mirela PANAIT
Simona Andreea APOSTU
Laeeq Razzak JANJUA

Contribution Of Circular Economy Strategies To Climate Change……284
Gabriela- Cornelia PICIU

Circular Economy - Sustainable Development Between Present and Future……..291
Nicolae POPA
Alexandru CEBAN
Nicolae POPA

The Effect of the S&P 500 on Gold Prices……308
Jona PUCI
Albana DEMI
Artemisa PJESHKA

Sustainable Opportunities in Innovative Public Procurement……314
Elena RUSU

Circular Economy – Zero Waste Strategy for The Communities of the Republic of Moldova……..……319
Elena RUSU

Adaptation of the Bulgarian Economy to Digital Transformation Challenges: Empirical Evaluation……325
Julia Stoyancheva STEFANOVA

OPENING SESION

CHALLENGES FOR FISCAL POLICY AFTER THE MITIGATION OF THE COVID-19 PANDEMIC

Ionel LEONIDA[1]

Cosmin Octavian CEPOI[2]

Abstract:

The health crisis generated by the COVID-19 pandemic has severely affected the world economy and, implicitly, the efficiency of the fiscal policy implemented in many countries, both against the background of pre-existing fiscal tensions, and due to the deterioration of the deficit and public debt during the period of the widespread manifestation of the pandemic, through reducing revenue and massively increasing government spending. In this context, fiscal policy requires significant adjustments to restore its efficiency and the sustainability of public finances. In this, we consider the initial stage of fiscal policy, in some fiscal-budgetary indicators on health crises and analyze fiscal policy challenges, especially regarding its balanced orientation, between equity, growth and sustainability objectives. We anticipate some general and specific fiscal policy proposals that can be considered in making and substantiating decisions to ensure a positive and achievable fiscal policy projection after the health crisis generated by the COVID-19 pandemic.

Keywords: *fiscal policy, the COVID-19 pandemic, fiscal challenges*

JEL classification: *E62, H21, O23*

Introduction

The COVID-19 pandemic has generated a global health crisis, deeply disrupting the social environment and economic activity, a situation that humanity has not faced before in its recent history. In just a few months after the outbreak of the COVID-19 pandemic, the health crisis has turned into a global economic crisis, causing a greater decrease in global Gross Domestic Product (GDP) than that caused by the global financial crisis of 2008-2010.

In this context, the government authorities have initiated and implemented a series of measures to limit the spread of the virus, to limit the effects of the health crisis and to keep the economy "alive" and resuscitate it, through fiscal-budget policy measures and instruments, through fiscal mechanisms countercyclical to support the health sector and assistance to businesses and households, especially those affected by the pandemic.

The effort sustained by the fiscal-budgetary policy during the pandemic caused a significant deterioration of public finances, which requires a rethinking of it together with the economic

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recovery. The containment measures, the increase in government spending and the decrease in tax revenues led to an increase in budget deficits and public debt.

The literature on macroeconomic policies during health crises with a focus on fiscal policy is limited, but concerns have intensified and become more fertile with the onset and advance of the pandemic. We note the studies by Eichenbaum, Rebelo and Trabandt (2020) and Glover et al. (2020), who incorporated epidemiological models into real business cycle models to study optimal responses to prevent and combat the pandemic and found that severe recessions generated by agents' optimal decision to reduce consumption and hours worked help reduce severity the pandemic. Other studies by Elenev, Landvoigt and Nieuwerburgh (2020) found that fiscal support given to companies in difficulty during the pandemic was effective in preventing corporate bankruptcies.

Concerns regarding the analysis and results of the fiscal-budgetary policy have also intensified at the institutional level, the International Monetary Fund (IMF), the Organization for Economic Cooperation and Development (OECD) and the European Union (EU27), where studies / reports have been developed in this regard. The results suggest that fiscal policy actions have been effective in stimulating economic activity, increasing confidence and reducing unemployment, but their effect varies depending on the type of measure and country characteristics.

In this paper, we intend to carry out a sequential analysis of the fiscal-budgetary policy before the outbreak of the COVID-19 pandemic, during it and its perspective in the context of the damage suffered during the health and economic crisis induced by it. For this analysis, we will follow the evolution of the main indicators of a fiscal-budgetary nature at the EU27 level, in the period 2019 - 2021 (revenues, expenses, deficit, debt, economic growth).

The evolution and analysis of fiscal policy indicators in the previous period and the outbreak of the COVID-19 pandemic

Total budget revenues include both tax revenues collected from direct and indirect taxation, as well as net social contributions, revenues from market production, capital transfers and other current revenues. The other current income category may include income from acquired property, other production subsidies and other current transfers.

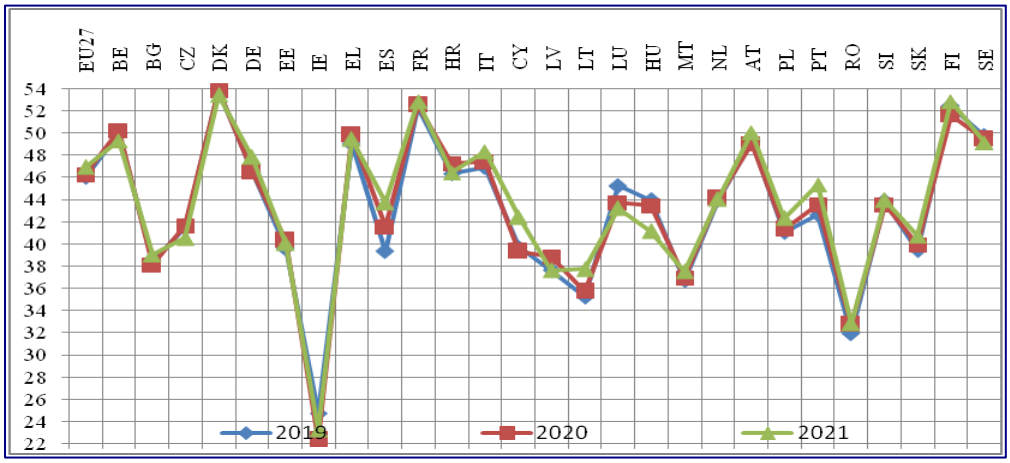

Figure 1. The size and evolution of total budget revenues in the EU27 member countries in the period 2019 – 2021 (% of GDP)

Source: https://ec.europa.eu/eurostat/databrowser/view/tec00021/default/table?lang=en

Analyzing the data presented in figure 1 and their evolution, we can see that the evolution in most countries reflects reduced oscillations of approx. ± 1 pp, including at the level of the EU27 average, where an increase of 0.9 pp is recorded in 2021, compared to 2019, but although there is this relatively close evolution between countries, each of them has its specific economic and fiscal peculiarities .This aspect is also confirmed by the difference between the maximum weight (DK, approx. 53%) and the minimum (Ireland, approx. 23%) aspects that reflect the importance that governments give to fiscal policy and the role of the state, through their size.

The countries with the highest share of total budget revenues in GDP are those that have emphasized direct taxation (France, Denmark, Belgium, Austria) and those with progressive taxation systems (Italy, Germany, Poland, Spain). At the opposite pole, in addition to Ireland, there are countries with tax systems oriented towards indirect taxation, with low and unique income tax rates located in Eastern Europe (Lithuania, Latvia, Bulgaria and Estonia).

Romania has a low share of total budget revenues in GDP, approx. 32% annually, with fluctuations in said margin. Their dynamics were not greatly affected by the COVID-19 pandemic, the trend being slightly positive, but the small size of their weight in GDP can negatively influence derived indicators that we are going to analyze further.

Government spending represents a financial anchor between the state, on the one hand, and citizens (individuals and legal entities), on the other hand, the former having the formal right to use the financial resources collected for the purpose of its duties and functions. Their structure aims to cover the mentioned purpose, transposed into governmental objectives of an economic, social, cultural nature, in the short, medium and long term. In addition to the total resources collected from taxes, fees and other revenues, government loans can be accessed that are generally aimed at financing public investment projects, with fiscal multiplier effects to ensure in the medium and long term additional fiscal resources used for debt repayment, but also for other objectives.

In the mechanism of state intervention in the economy, in the social environment or in combating the effects of some crises, the modification of government spending represents a major fiscal policy tool that can be used in an expansionary form (which involves increasing government spending or decreasing taxation). In the context of our work, the fiscal policy used by most governments has expansionist characteristics, being also theoretically appropriate for stimulating savings during economic crises.

At the EU 27 average level, the share of government expenditure in GDP increased from 46.6% in 2019 to 53% in 2020, and in 2021, compared to the previous year, they decreased by 1.5 pp. In the structure of the member countries, countries such as France, Finland, Belgium, Sweden, Austria, Italy, Germany, Greece, Spain and Denmark can be distinguished, with spending weights close to the EU average and the same evolution of significant growth in 2020 and slight relaxation in the year 2021.

Another group of countries, mainly from the center and west of Europe, register lower shares of expenses than the EU average, located in the middle area of the hierarchy, between 42 - 48% (Poland, Portugal, the Netherlands, the Czech Republic, Hungary) comprised between 43 and 49%, as well as the countries located at the bottom of this hierarchy, with weights ranging from 35 to 42%, such as Romania, Bulgaria and Latvia. As well as the situation and the size of total revenues, Ireland has the lowest share in the EU, between 24-27% of GDP.

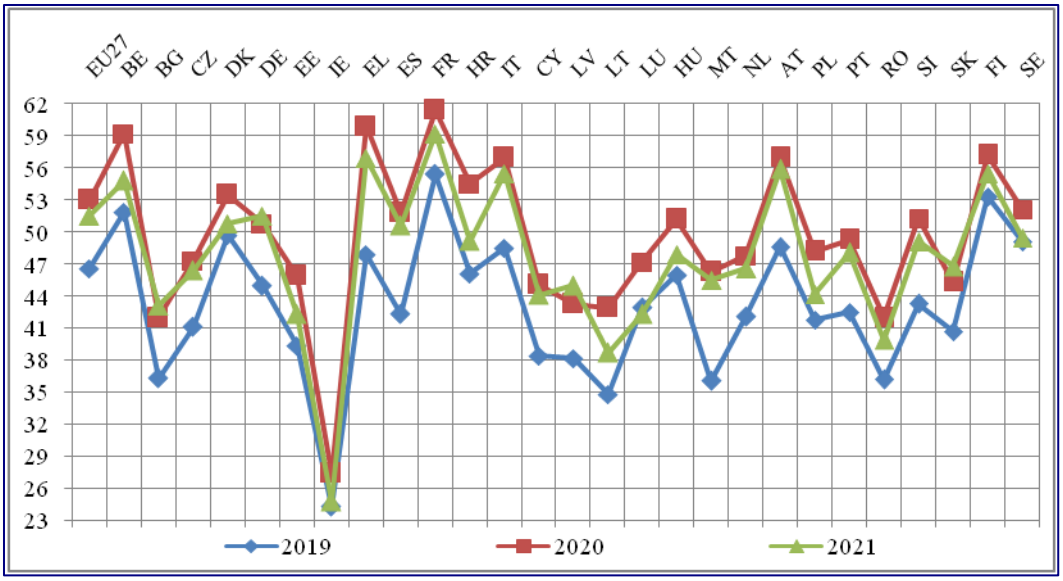

Figure 2. The size and evolution of total government expenditure in the EU27 member countries, in the period 2019 – 2021 (% of GDP)

Source: https://ec.europa.eu/eurostat/databrowser/view/tec00023/default/table?lang=en

Romania is in penultimate place, surpassing Ireland and Lithuania, but being much lower than the EU average, with a share of government expenditure in GDP lower by 10 – 11 pp, with a significant increase of 6 pp in 2020 and 4 pp in 2021, compared to 2019.

Based on these dynamics of budget expenditures, we can appreciate the financial dimension of the packages of discretionary fiscal-budgetary measures implemented at the level of the EU27, but also at the level of the member countries. Thus, at the EU27 average level, the approximate size of the economic stimulus packages through fiscal-budgetary instruments in 2020 was 6%, and within the EU27 there are countries that have implemented fiscal measures of approximately 8-12% of national GDP, such as Greece, Malta, Italy, Croatia, Austria or Slovenia, and in 2021 the size of the fiscal measures packages has decreased slightly in most countries. In this context, Romania is at the level of the EU27 average.

This dynamic evolution of government spending, analyzed in relation to a certain stationarity of total revenues recorded by Romania in the same period, but also in other countries, will be found in the size of the budget deficit and, by way of consequence, in that of the public debt, in terms of their negative impact, but also in a positive evolution of economic growth, at least from 2021.

The conventional budget balance, an indicator that presents the state of public finances of a country, at certain times, usually annually, represented the indicator on which the economic effects of the health crisis had the strongest impact, an aspect confirmed by its evolution, both at the level the EU27 average, where the deficit increased by more than 6pp, as well as in member countries, especially in those where the fiscal-budgetary measures packages recorded higher financial dimensions, in accordance with the previous mentions.

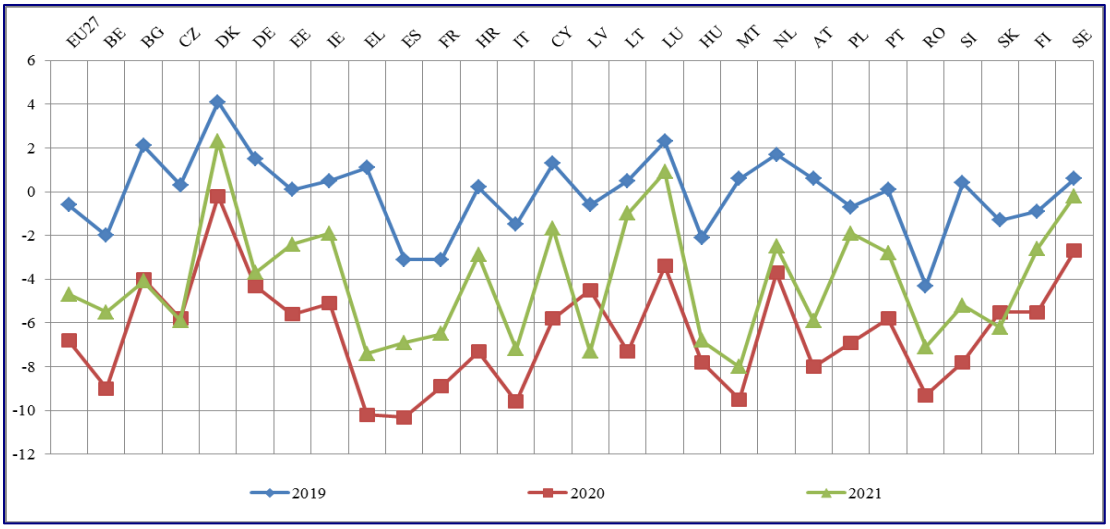

Figure 3. The size and evolution of the conventional budget balance in EU member countries, in the period 2019 – 2021 (% in GDP)

Source: https://ec.europa.eu/eurostat/databrowser/view/gov_10dd_edpt1/default/table?lang=en

In Romania, the budget deficit also increased significantly in 2020, by approx. 5 pp, against the background of an initial deficit of over 4% of GDP, the largest in the EU27, an aspect that limited to a certain extent the fiscal space for the implementation of a stronger / stimulating package of fiscal measures.

The public debt, like the budget deficit, represents an important indicator of analysis and evaluation of the state of public finances in a country, being most often a consequence of acute budget deficits, a solution to the recovery of crisis situations, economic, social, etc., but and a frequently used alternative to increasing taxation, by transferring the repayment of some present government expenditure to future generations.

In figure 4, we present its evolution at the level of the EU27 average and at the level of each member country. Thus, at the level of the EU27 average, an important increase can be observed in 2020, compared to 2019, of over 13 pp and over 11 pp, in 2021, a situation that reflects the financing of the budget deficit by contracting loans.

Within the EU27, there are countries whose debt increased in 2020, by more than 20 pp, namely Greece, Spain, Italy, Cipru or Portugal. At the opposite pole there are countries, such as Ireland and Luxembourg, with increases of 1.2 and 2.5 pp. There is also a significant group of countries with increases of over 10 – 15 pp, a range in which Romania is also included, with an increase of approx. 12 pp in 2020 and over 13 pp in 2021, compared to 2019.

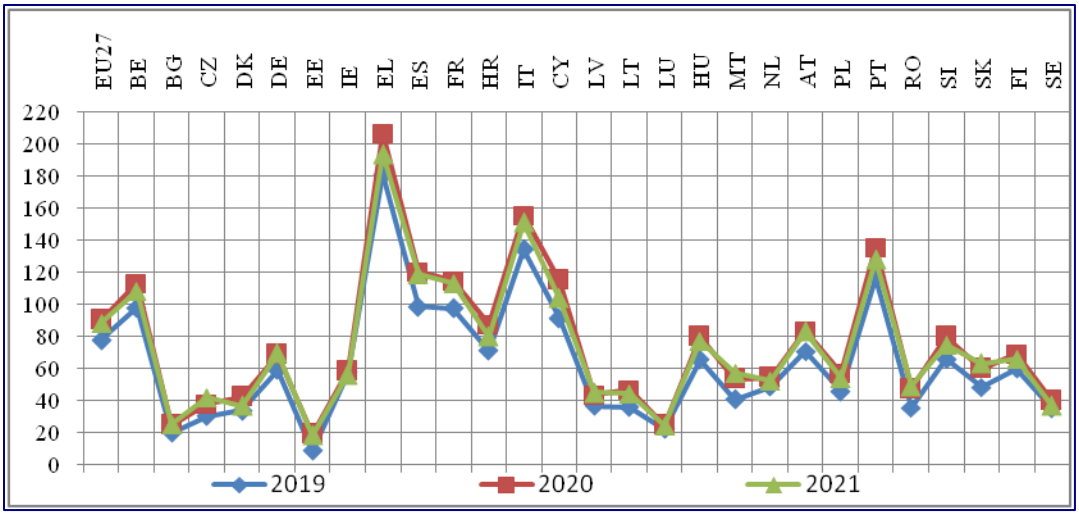

Figure 4. The evolution of public debt in the EU27 and member countries, in the period 2019 – 2021 (% in GDP)

Source: https://ec.europa.eu/eurostat/databrowser/view/gov_10dd_edpt1/default/table?lang=en

The general evolution of the share of public debt in GDP in all countries is of significant increase in 2020, the most difficult year of the COVID-19 pandemic, in which governments faced an unforeseen and unique situation, so far, and the panic created led to the contracting of massive loans, an aspect that in 2021 moderated in relation to the evolution of 2020, with most countries entering a downward trend, but there are also situations in which the rise from 2020 continued in 2021, with intensity less, such as Romania, Bulgaria, the Czech Republic or Slovakia.

Economic growth is an indicator by which the efficiency of fiscal-budget policy measures implemented by governments can be evaluated and even measured, in general, but especially in periods of economic crisis or with negative effects on the economy, through the multiplier effects that they have generate in the short, medium or long term.

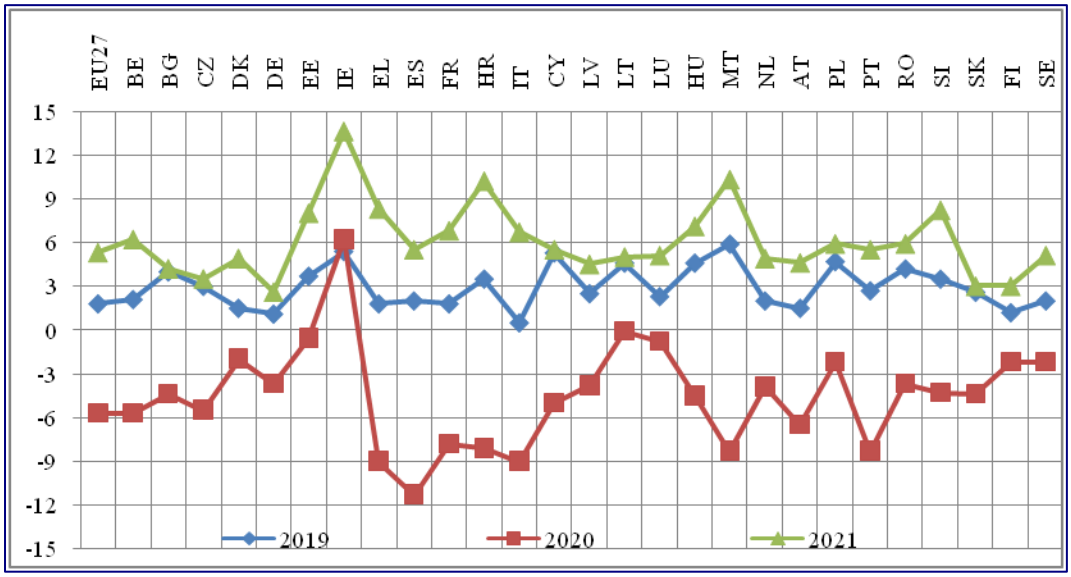

Figure 5. The evolution of the annual GDP growth rate compared to the previous year, in the member countries, in the period 2019 – 2021

Source: https://ec.europa.eu/eurostat/databrowser/view/tec00115/default/table?lang=en

At the EU27 level, the annual economic growth rate recorded a fluctuating evolution, from 2% in 2019, to approx. – 6% in 2020 and a return above expectations in 2021, when it recorded approx. 5%. In the structure of the member countries, in 2019 they all recorded positive growth rates, in 2020, they recorded negative growth rates (with the exception of Ireland), and in 2021 they returned to positive growth rates, much higher compared to the year 2019.

The generous financial dimension of the packages of fiscal-budgetary measures implemented in 2020 generated immediate and extensive economic effects in most member countries. Thus, at the EU27 level, a budgetary effort of approx. 6% of GDP in 2020, stimulated GDP growth, which registered an increase of approx. 5% in 2021. Similar situations are found in most member countries, including Romania, where the size of the package of fiscal-budgetary measures had an effect of approx. 6% of GDP in 2021.

In 2021, the financial dimension of the packages of fiscal-budgetary measures was significantly reduced compared to that of the previous year, an aspect that will be found to a certain extent in the GDP dynamics of 2022.

Conclusions

In the period before the COVID-19 pandemic, the state of the fiscal-budgetary policy at the EU27 level, analyzed through the lens of the two mentioned indicators (the budget deficit and the public debt, in relation to the budgetary frameworks implemented at the community level) was relatively stable in most member countries, recording -se. - there are budget surpluses or deficits below 3% of GDP and levels of public debt below the 60% threshold of GDP, with some exceptions regarding the level of debt to GDP in the cases of Greece (180%), Italy (134%), Portugal (116%) and regarding this budget deficit, the case (-4.3% of GDP).

The effective reaction of the fiscal-budgetary policy to the COVID-19 pandemic to reduce the negative impact on the economic and social environment at the EU27 level was a farm, of an unprecedented scale in the history of the community, materializing in over 1,000 fiscal-budgetary measures, with their total financial dimension estimated at 6% of GDP in 2020 and 4% in 2021.

Among the countries, the suspension of the Community fiscal-budgetary frameworks and the funds made available by the EU through various programs and supported and stimulated the implementation of financially consistent fiscal-budgetary packages, aimed both at preventing and combating the spread of the virus, and to combat the negative economic and social effects generated by the pandemic.

The fiscal-budgetary effort made by the EU member countries in 2020 significantly damaged the state of public finances, reflected by the evolution of the analyzed indicators, with revenues registering decreasing or stagnant tendencies, budget expenditures increased significantly and led to an increase in the budget deficit, as well as to the increase in loans to finance them, amplifying the growth rate of the public debt. Economic activity decreased in 2020 by approx. 5-6% compared to the previous year, an unfavorable context for fiscal recovery.

The effects of the pandemic continued to have a negative impact on the state of public finances in 2021 as well, but to a lesser extent, with favorable developments in the analyzed indicators, a strong economic impulse, a situation that predicts a short-term return of the economy to the state from before the pandemic. The situation of public finances after passing through the COVID-19 pandemic is slowly recovering, but with significant accumulations in terms of public debt.

In the year 2022, a slow and easy improvement of all the analyzed indicators is expected, the prerequisites for this being the economic growth rate recorded at the level of the first semester / 2022 in the EU of over 2.5%, a similar situation in Romania.

Beyond the worrying aspects related to the COVID pandemic, its negative environmental and social impact and the deterioration of the state of public finances in several countries, an increase in concerns about the adoption of measures that are not specifically related to the health crisis is expected, but the design of some fiscal-budgetary strategies to ensure the moderation of government expenses, which were not compensated by additional revenues, the increase of revenues and the placement of public finances on a trajectory of reconsolidating deficits and public debt.

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SECTION I. FISCAL ISSUES IN THE GLOBALIZED ECONOMY & FINANCIAL MICROECONOMICS

IDENTIFICATION OF THE MAIN PROBLEMS OF THE SOCIO-ECONOMIC DIMENSION AT THE EU27 LEVEL

Alina Georgeta AILINCĂ[3]

Abstract:

The year 2022 unfortunately brought, with the outbreak of the war in Ukraine, new challenges in international and European politics. The European Union thus reiterated its support for the defence of European democracy, but also its firm commitment to a more politically, economically, socially and ecologically sustainable world. Beyond the human losses and the medical and economic consequences left by the COVID-19 pandemic, from a social and educational point of view, children, young people, women, people with disabilities, people at risk of poverty or seriously ill were the most affected social categories in the pandemic. In this context, the article aims to describe and analyze some socio-economic indicators at the level of the EU27 countries in order to outline the main problems in the social and economic field for the period 2011-2021.

Keywords: *poverty, inequity, employment, public debt, budget balance/imbalance*

JEL classification: *E63, H63, Q01*

Introduction

With the creation of the single market, through the resulting benefits, the social dimension of the EU has become more and more highlighted. Strong economic growth, improved competitiveness, European integration, solidarity, accountability, information transfer and consolidation of best institutional practices are just a few elements that can strengthen the social nature of the EU. The history of Europe outlines different social constructions from one state to another, with distinct national and regional, sub-regional historical circumstances, and the social construction of the EU presents the uniqueness of this amalgam of patterns. In addition to these distinct political, economic and social models, EU countries face increasingly diverse crises and shocks (medical, political, energy, agri-food, etc.) that reveal each state's resilience capacity or inability in part, but also of the EU27 as a whole.

Recent international and European policy guidelines increasingly speak of a globalized world with ever-increasing collective responsibilities, an ecologically sustainable world in which society aims to become more equitable and technology plays an increasingly important role. Thus, in response to the desire of the European Union, which aims to become the first climate-neutral continent by 2050, a series of EU reports and programmatic documents outline the resources, but also the vulnerabilities and challenges it has to face in the future nearby.

In this context, resilience can contribute to the preservation of values and the achievement of the EU's sustainable development goals, through the dimensions that address them (e.g., the

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geopolitical dimension, the social and economic dimension, the ecological dimension and the digital dimension). (European Commission, 2020, Strategic Foresight Report Charting the course towards a more resilient Europe). Therefore, without focusing on these dimensions, we strictly follow in this article the analysis of the evolutions of a series of indicators that capture the social and economic dimension of the EU27, outlining the vulnerabilities, but also the capacity of the socio-economic dimension.

Description of the Problem and Literature Review

The social dimension of economic development often covers elements related to changes in social structure, political changes and integration or solidarity and changes related to the diversity of developing societies, considering that only projects that recognize the connections between cultural subsystems are capable of achieving better results, ecological, and economics of each society (Smelser, 1997). Therefore, there are many facets of the social dimension analysed in the literature in relation to a series of challenges: economic development/growth, globalization (e.g., World Bank, 2006), the pandemic crisis generated by COVID-19 (Gourinchas, 2020; International Labor Organization, 2021; OECD, Employment Outlook, 2021), wars, riots and conflicts (e.g., Barnett and Adger, 2007; Watts, 2007), but also in relation to climate change (e.g., Mearns and Norton, 2010), etc.

Also on trends, the report World Employment and Social Outlook: Trends (ILO, 2022) provides a comprehensive assessment of how the labour market recovery has played out around the world, looking at global patterns, regional differences and outcomes across economic sectors and groups of workers. Thus, the report signals that the outlook for the global labour market has deteriorated since the last projections of the International Labour Organization (ILO), a return to pre-pandemic performance is likely, for much of the world, to remain elusive in the coming years. Based on the latest economic growth forecasts, the ILO estimates that total hours worked globally in 2022 will remain almost 2% below their pre-pandemic level, corresponding to a shortfall of 52 million equivalent jobs full-time (assuming a 48-hour work week). Global unemployment is projected to reach 207 million in 2022, surpassing the 2019 level by about 21 million.

According to the above report, economic recovery after the COVID-19 pandemic has followed different patterns across sectors and geographic regions. Many decent labor gains made before the pandemic have been significantly affected, and pre-existing labor shortages diminish the prospects for a sustainable recovery in many regions. Employment in low- and middle-income countries remained significantly below that seen in richer economies, working conditions became increasingly hostile, social inequality increased, and social protection systems were weaker. These developments also occurred due to the narrower fiscal space against the background of high expenses with the control of the COVID-19 pandemic crisis, but also lower vaccination rates. Although temporary work is seen as a shock absorber in times of economic uncertainty, the report nevertheless believes that the wider use of temporary contracts will lead to segmentation of labour markets, which will have suboptimal outcomes for both employers and workers and may affect increasing long-term productivity (ILO, 2022).

Methodology and Data

Given that the report "RESILIENCE DASHBOARDS FOR THE SOCIAL AND ECONOMIC, GREEN, DIGITAL, AND GEOPOLITICAL DIMENSIONS" of the European Commission of July 26, 2021 indicates that, internationally, at the level of the countries selected by the report, the economic and social field centralizes a level increased vulnerability index in relation to other

analysed dimensions (e.g. green, digital and geopolitical), the article analyses a series of issues regarding the capacities and vulnerabilities of the social and economic indicators selected on the basis of this report. Thus, only 10 indicators of socio-economic vulnerabilities and only 8 indicators of capacities for the social and economic field are selected from the report. To these I have added two more indicators that do not exist in the resilience dashboard reports: Current taxes on income, wealth, etc. [TEC00018] and General government deficit (-) and surplus (+) - annual data [TEINA200]. Both indicators are statistically reflected as a percentage of GDP. The analysed indicators are: Arpr- At-risk-of-poverty rate by sex [TESSI010] (% population with an equivalent disposable income, after social transfer, below the poverty risk threshold); IqsrS80/S20 - Income quintile share ratio (S80/S20) by sex [TESSI180]; Eeis - Employment in energy intensive sectors (thousands of people) [LFSA_EGAN22D]; Emhar - Employment in manufacturing with high automation risk (thousands) [LFSA_EISN2]; Rdhi - Regional dispersion of household incomes (ratio) based on income of households by NUTS 2 regions [NAMA_10R_2HHINC$DEFAULTVIEW]; Srumn - Self-reported unmet needs for medical examination by sex, age, main reason declared and income quintile [HLTH_SILC_08$DEFAULTVIEW](%); Geg- Gender employment gap, by type of employment [SDG_05_30] (Percentage points); NEET - Young people neither in employment nor in education and training by sex (15-29 years) (% of the relevant population group) [SDG_08_20]; Ltu - Long-term unemployment by sex - annual data (% of population in the labor force) [UNE_LTU_A$DEFAULTVIEW]; Gggd - General government gross debt (% GDP) [SDG_17_40]; Ist- Impact of social transfers (excluding pensions) on poverty reduction by sex (%)[TESPM050]; Hsr - Household saving rate (%)[TEC00131]; Ggeehspe - General government expenditure by function (COFOG) (education, health, social protection) (% GDP) [GOV_10A_EXP$DEFAULTVIEW]; Sptm - Standardised preventable and treatable mortality (rate) [SDG_03_42]; Hly - Healthy life years by sex (from 2004 onwards) [HLTH_HLYE$DEFAULTVIEW]; Calt3yfc - Children aged less than 3 years in formal childcare (% of the corresponding population category) [TEPSR_SP210]; Empl - Employment and activity by sex and age - annual data (% of total population) [LFSI_EMP_A$DEFAULTVIEW]; IsGDP - Investment share of GDP by institutional sectors (% GDP)[SDG_08_11]; Ggds- General government deficit (-) and surplus (+) - annual data (% GDP) [TEINA200]; Ctiw- Current taxes on income, wealth, etc. (% GDP) [TEC00018].

Results

The socio-economic field certainly includes a much wider area of indicators than those captured in the resilience dashboards. However, they are considered representative by the European Commission for describing the socio-economic situation and its coupling with other important areas such as the green economy, digitization and the geopolitical dimension.

The first monitored indicator is the poverty risk rate by gender. It should be noted that, according to Eurostat, the poverty risk rate is the share of people with an equivalent disposable income (after social transfer) below the poverty risk threshold, which is set at 60% of the median national equivalent disposable income after transfers. Therefore, this indicator does not measure wealth or poverty, but low income compared to other residents of that country, which does not necessarily imply a low standard of living. Pensions, such as old-age and survivor's (widow's/widower's) benefits, are counted as income (before social transfers) and not as social transfers. The indicator examines the hypothetical non-existence of social transfers. The idea of persistence can be outlined by following the at-risk-of-poverty rates over a period of several years in a row.

It should be emphasized that one of the five main objectives of the indicators in the Europe 2020 strategy is to reduce poverty by removing at least 20 million people from the risk of poverty or

social exclusion by 2020, a relatively insignificant and otherwise missed target, taking into account that, according to the Eurostat, in 2020 in the EU there were 96.5 million people exposed to the risk of poverty or social exclusion, representing 21.9% of the population, of which there were 75.3 million people exposed to the risk of poverty, 27.6 million were disadvantaged in material and social terms and 27.1 million lived in a household with low work intensity.

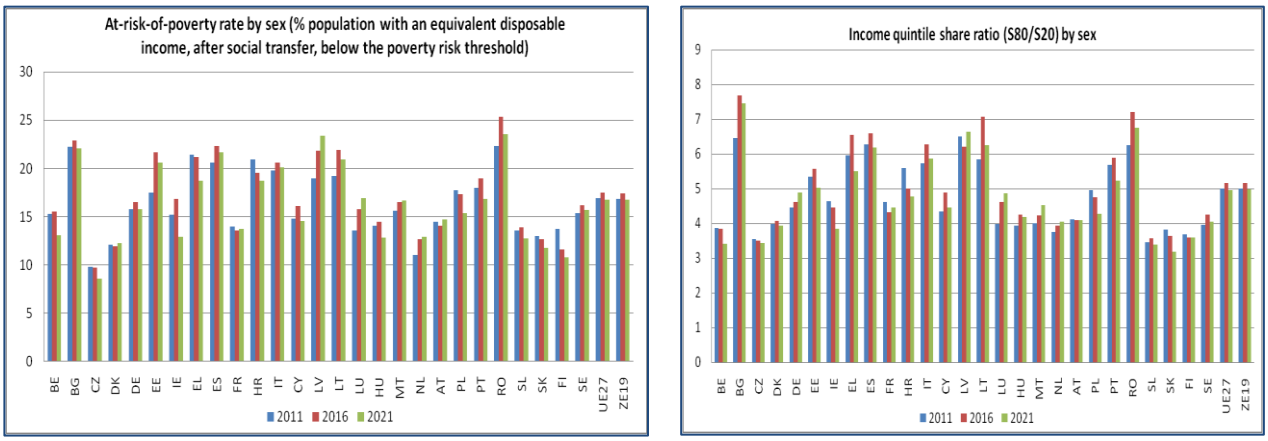
At-risk-of-poverty rate by sex (% population with an equivalent disposable income, after social transfer, below the poverty risk threshold)
30
25
20
15
10
5
0
BE BG CZ DK DE EE IE EL ES FR HR IT CY LV LT LU HU MT NL AT PL PT RO SL SK FI SE UE27 ZE19
2011 2016 2021
Income quintile share ratio (S80/S20) by sex
9
8
7
6
5
4
3
2
1
0
BE BG CZ DK DE EE IE EL ES FR HR IT CY LV LT LU HU MT NL AT PL PT RO SL SK FI SE UE27 ZE19
2011 2016 2021

Figure 1 - The situation of the At-risk-of-poverty rate and the share ratio of the income quintile S80/S20 at the level of the EU27 countries in the years 2011, 2016 and 2021

Source: Eurostat, author processing

As we can also see from figure 1, during the analysis period, the poverty risk rate is at rates of over 20% of the population in Romania, Bulgaria, Latvia, Lithuania, Estonia, Spain, Greece, Croatia and Italy, practically the entire eastern flank and southern EU27. The Czech Republic is the country with the best evolution in the field, with an average of less than 10% of the population, followed by Denmark, the Netherlands, Finland, Slovakia and Slovenia. At the same time, it is noted that the average level of the EU27 and the euro zone is relatively high, over 15%, which suggests the need for social policies with a clear direction in reducing poverty at the level of the EU countries. According to Eurostat, the income quintile share ratio or the S80/S20 ratio is a measure of the inequality of income distribution. It is calculated as the ratio of total income received by the 20% of the population with the highest income (top quintile) to that received by the 20% of the population with the lowest income (bottom quintile). In this sense, it seems that particular problems regarding income inequality (a level of more than 6 times higher between the two income thresholds) are recorded in Bulgaria, Romania, Spain, Latvia, Lithuania, Greece and Italy.

It should be noted that, in general, employment is considered as contributing substantially to economic growth and ensuring the economic and social stability of a country or region of the world, but in the context of the transition to a new type of economy and the problem of the precariousness of energy resources, employment in high energy-consuming fields, but also in fields with a high risk of automation can be considered economic vulnerabilities (see Figure 2). According to Eurostat, the sectors generally classified as high energy consumers are the manufacture of chemicals and chemical products, the manufacture of other non-metallic mineral products, the manufacture of base metals and the manufacture of motor vehicles, trailers and semi-trailers. These fields seem to expose mainly countries like Germany, with over 2 million people employed in these fields, but also countries like Italy, Luxembourg, France, Poland and Spain. The Czech Republic and Romania, although not exposed as strongly as other dominant EU economies, may also suffer in the near future from the effects of the energy crisis on an industrial level.

The occupations considered by the EU in its resilience dashboards to be at risk of automation

are: technicians and allied professionals, clerical workers, sales and service workers, plant and machinery operators and fitters, and other basic occupations. In this sense, Germany and Italy, and to a lesser extent, France, Poland and Spain may be affected by the transition to an economy with an important component in automation.

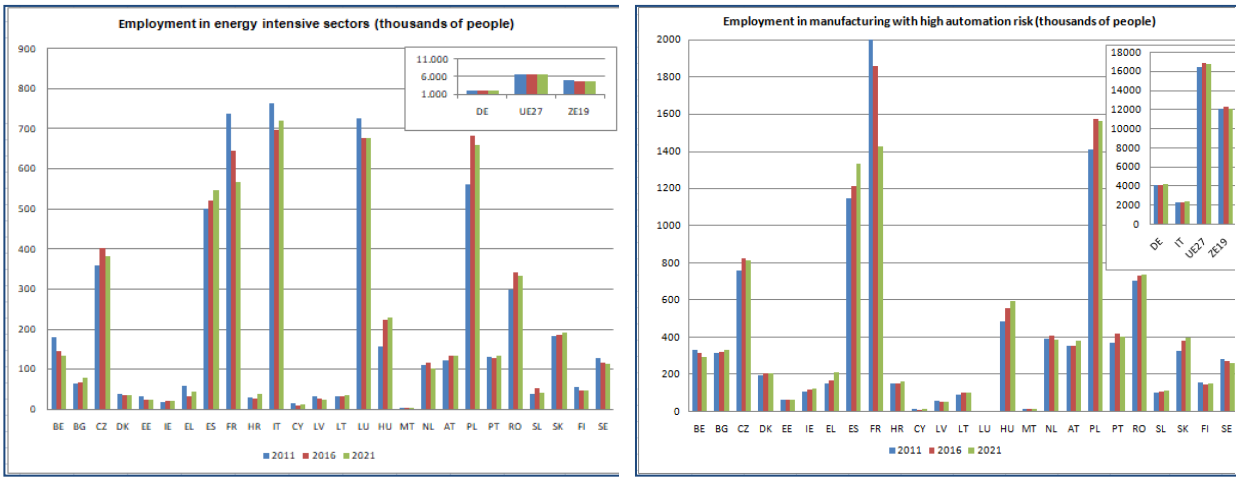

Figure 2 - The situation of employment in energy-intensive sectors and employment in manufacturing with a high risk of automation at the level of the EU27 countries in 2011, 2016 and 2021

Source: Eurostat, author processing

If we analyse at the level of EU27 countries the regional dispersion of household income by NUTS 2 regions (see Figure 3) (calculated as reporting, at the level of a country, the maximum regional income to the minimum, measured in our case in millions of euros), we notice that there a widening of income inequalities in countries such as Spain and France, even above the EU27 average, followed by countries such as Italy, Finland, but also Portugal, Germany, Belgium, Greece and the Netherlands, but to a lesser extent. Practically, we observe that all Romanic language speaking countries show a high regional income disparity, probably not only as a result of differentiated regional development, but also as a result of a cultural and probably industrial structure differentiated at the regional level.

Regarding the self-reported unmet needs for medical examination, we note that in 2011, in Latvia, Romania, Bulgaria and Greece, the indicator exceeded 6%, subsequently decreasing substantially, remaining high (over 6%) only for Greece at the level of 2021. Noted that additional efforts are needed regarding these countries, especially since the level of the EU27 and the Eurozone (EE19) of the indicator is relatively low (below 2%) and improving from year to year.

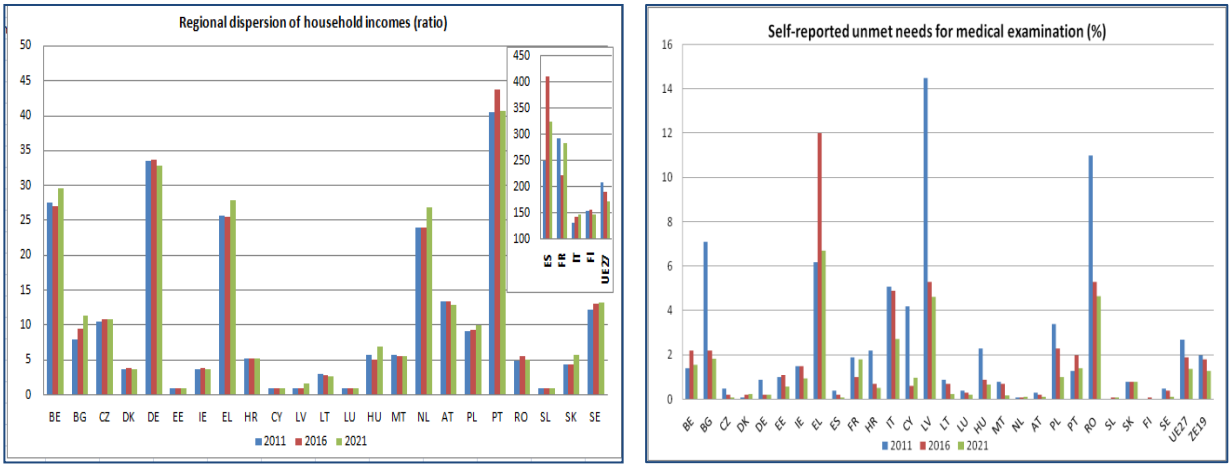
Regional dispersion of household incomes (ratio)
BE BG CZ DK DE EE IE EL HR CY LV LT LU HU MT NL AT PL PT RO SL SK SE
ES FR IT FI UE27
2011 2016 2021
Self-reported unmet needs for medical examination (%)
2011 2016 2021

Figure 3 - The situation of the regional dispersion of household income and self-reported unmet needs for medical examination at the level of the EU27 countries in the years 2011, 2016, 2021

Source: Eurostat, author processing

The gender employment gap or gap reflects the difference between employment among men and women aged 20-64. The indicator reflects a possible distortion as well as a sub-optimal use of human capital on the labour market, highlighted especially in moments of economic crisis, often making recovery from the crisis more difficult. Thus, in Figure 4, during the analysis period, Malta seems to excel negatively in this regard, followed by Greece and Italy and, to a lesser extent, by Romania and the Czech Republic. Instead, Lithuania, Latvia, Finland and Sweden seem to keep this gap under the best control.

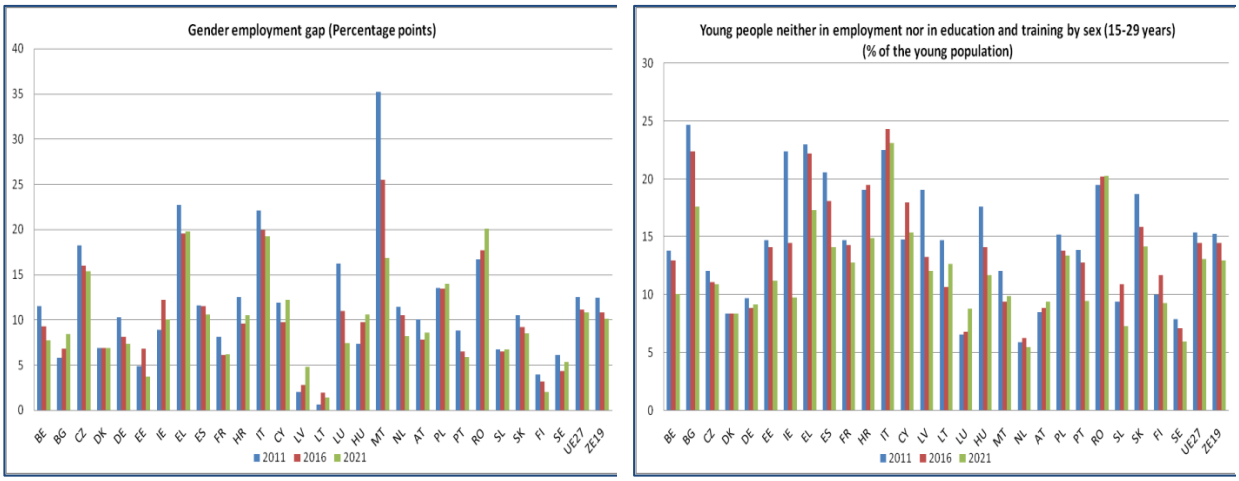
Gender employment gap (Percentage points)
2011 2016 2021
Young people neither in employment nor in education and training by sex (15-29 years)
(% of the young population)
2011 2016 2021

Figure 4 - The situation of the employment gap between women and men and of young people who do not have a job, nor follow an education and training program at the level of the EU27 countries in the years 2011, 2016 and 2021

Source: Eurostat, author processing

When we look at the indicator Young people who do not have a job, nor follow an education and training program, by sex (aged between 15-29 years) (NEET) we can note that, in general, at the level of the EU27 and in the euro zone, the trend is to reduce and therefore to improve the indicator, and the year 2021 marks an excess of 20% only for Italy, but Romania also seems to have an adverse, worrying trend.

Regarding long-term unemployment, at the level of the EU27 and euro area (EE 19) average (see figure 5), the situation seems to have improved over time in the period 2011-2021. In 2021, regarding long-term unemployment, only Greece seems to exceed 8% of the working population, less difficult and decreasing, but still worrying, situations being noted for Spain and Italy.

Considering the public debt, a deterioration of the indicator observed at the level of the EU27 and ZE19 average can be observed over the entire period of analysis, 2011-2021, the 60% threshold imposed by the Maastricht Treaty being violated since 2011 by most EU countries. An alarming situation can be noted for Greece, with a public debt of over 160% over the entire analysis period, followed by Italy, Portugal, Belgium and Cyprus (over 100% of GDP). Also, great concerns can be specified for Spain and France, which in the 2020-2021, they also exceeded the psychological threshold of 100% of GDP.

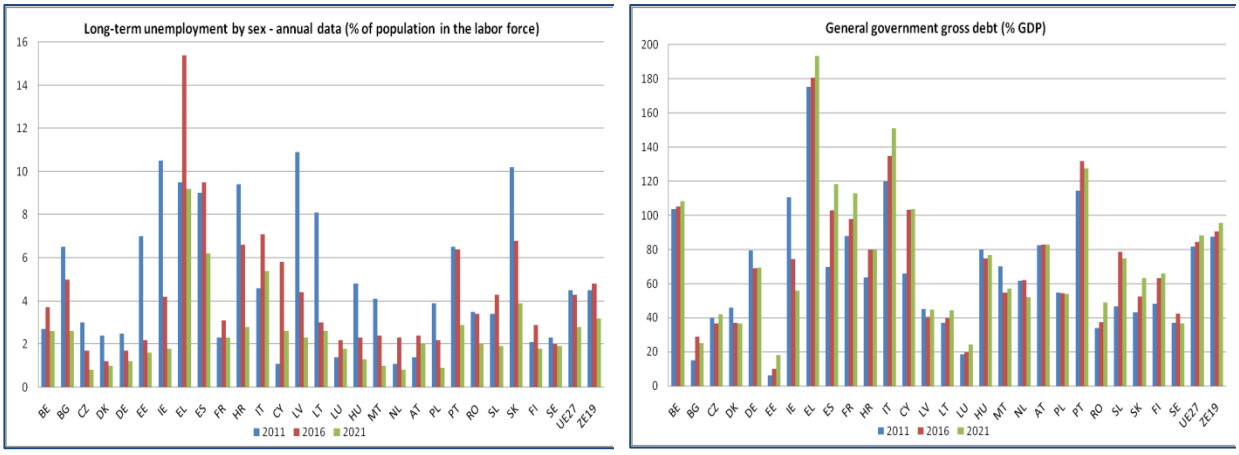
Long-term unemployment by sex - annual data (% of population in the labor force)
General government gross debt (% GDP)
2011 2016 2021

Figure 5 - The situation of long-term unemployment by gender and gross public debt at the level of EU27 countries in 2011, 2016 and 2021

Source: Eurostat, author processing

Regarding capabilities, we start the analysis with the indicator on the impact of social transfers on poverty reduction (see Figure 6, left). The indicator reveals the percentage reduction of the poverty risk rate, due to social transfers (calculated by comparing the poverty risk rates before social transfers with those after the transfers).

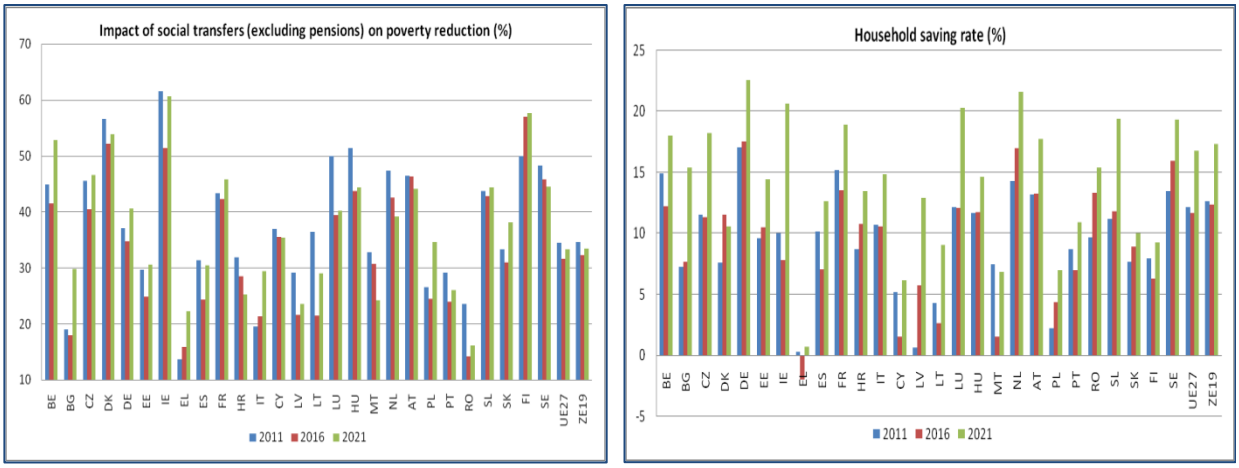

Figure 6 - The situation of the impact of social transfers and the saving rate of households at the level of the EU27 countries in the years 2011, 2016 and 2021

Source: Eurostat, author processing

Thus, for the period of analysis, 2011-2021, we observe at the average level of the period, by country, that: Ireland, Finland and Denmark are the three countries with the best performances in the field, while Romania, Greece and Italy are the poorest performances regarding the impact of social transfers. At the level of 2021, Ireland, Finland and Denmark remain in the ranking of countries with the best performances in terms of the impact of social transfers, while among the worst performers, together with Romania and Greece, Latvia also appears.

Therefore, one could outline the idea that in addition to the larger sums that must be delivered to the population, countries with significant social problems in terms of poverty must simultaneously expand the area of beneficiaries, act with priority on the most vulnerable categories (children and youth), as well as review the programs implemented, so that the degree of penetration of social transfers is more effective.

Regarding the household savings rate, over the entire period of analysis, 2011-2021, on average, the countries with the three best performances in the field are: Germany, the Netherlands and Sweden, and the countries with the worst results are: Greece, Cyprus and Lithuania. At the level of 2021, the countries with the highest saving rates are Germany, the Netherlands and Ireland, and the countries with very low saving rates are: Greece, Cyprus and Malta. The household saving rate (expressed as a percentage) is the ratio of gross saving to gross disposable income adjusted for the change in household net capital from pension fund reserves.

If we analyse the situation of public spending on functions such as education, health and social protection (see Figure 7, left), on average, over the entire period of analysis, it stands out negatively, with a limited share of GDP of spending: Romania, Bulgaria and Ireland, while countries such as: Denmark, France and Finland have understood the need to invest public funds in these vital areas of society. In 2021, with a slight reversal of position, countries such as Ireland, Romania and Bulgaria remain in the ranking of states with very low public spending in education, health and social protection, while the top is still occupied by France, Finland and Denmark. For this reason, it is not surprising that in 2021, in terms of preventable and treatable standardized mortality in the top three negative are: Romania, Latvia and Hungary, while the countries that have this type of low mortality are: Italy, Spain and Sweden. In fact, we notice that the entire flank of the Eastern European countries and the Baltic countries have significant problems in maintaining these low mortality rates.

It should be noted that preventable and treatable mortality, therefore avoidable, emphasizes elements of primary prevention, i.e., before the onset of diseases/injuries with the aim of reducing their incidence. According to the Eurostat approach, total avoidable mortality includes a number of infectious diseases, several types of cancer, endocrine and metabolic diseases, as well as some diseases of the nervous system, circulatory, respiratory, digestive, genitourinary, some diseases related to pregnancy, childbirth and prenatal period, a range of birth defects, but also adverse effects of medical and surgical care, as well as a list of alcohol and drug-related injuries and disorders. The data, to improve comparability, are presented as standardized mortality rates, meaning they are adjusted to a standard age distribution to measure mortality rates independent of the different age structures of the populations.

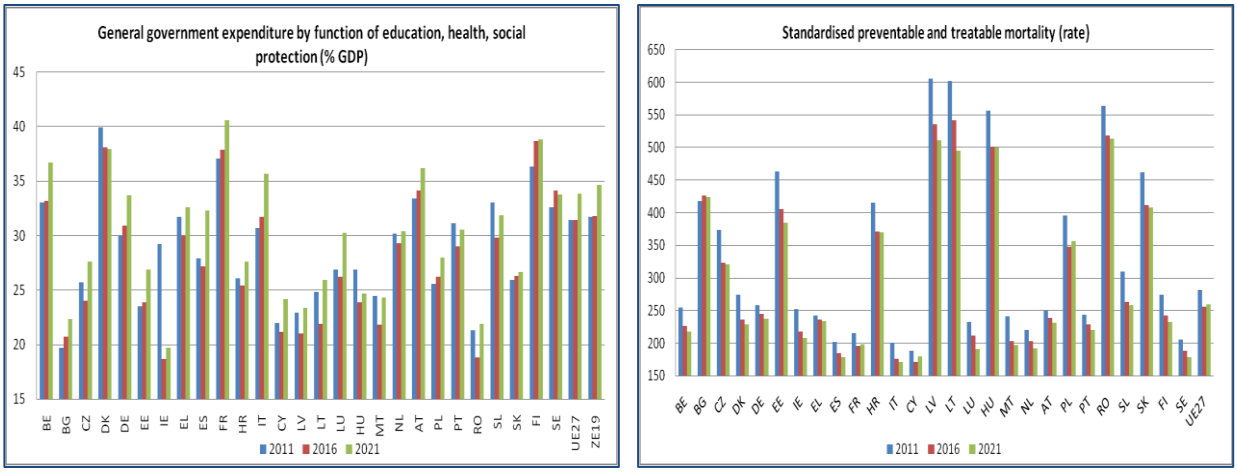
General government expenditure by function of education, health, social protection (% GDP)
45
40
35
30
25
20
15
BE BG CZ DK DE EE IE EL ES FR HR IT CY LV LT LU HU MT NL AT PL PT RO SL SK FI SE UE27 ZE19
2011 2016 2021
Standardised preventable and treatable mortality (rate)
650
600
550
500
450
400
350
300
250
200
150
BE BG CZ DK DE EE IE EL ES FR HR IT CY LV LT LU HU MT NL AT PL PT RO SL SK FI SE UE27
2011 2016 2021

Figure 7 - The situation of general public expenditure on education, health and social protection and standardized preventable and treatable mortality at the level of the EU27 countries in the years 2011, 2016 and 2021

Source: Eurostat, author processing

Also related to health and education are the indicators regarding the number of healthy years in life, but also the situation of children younger than 3 years old in formal care programs, at the European level (see Figure 8). Thus, the number of healthy years and life places in the top three countries, for the entire period of analysis in countries such as: Malta, Sweden and Ireland, while the countries that are at the lowest levels are: Latvia, Slovakia and Estonia. In 2021, the situation of the three countries with the worst results in terms of healthy life years (Latvia, Slovakia and Estonia) is maintained, and the countries with the highest values of the indicator are Sweden, Malta and Italy.

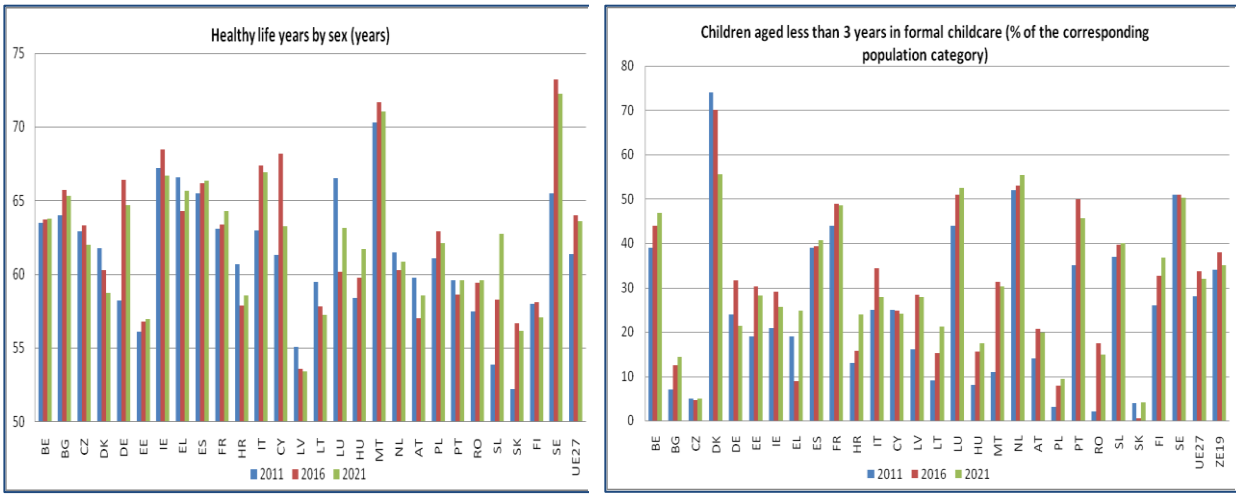
Healthy life years by sex (years)
75
70
65
60
55
50
BE BG CZ DK DE EE IE EL ES FR HR IT CY LV LT LU HU MT NL AT PL PT RO SL SK FI SE UE27
2011 2016 2021
Children aged less than 3 years in formal childcare (% of the corresponding population category)
80
70
60
50
40
30
20
10
0
BE BG CZ DK DE EE IE EL ES FR HR IT CY LV LT LU HU MT NL AT PL PT RO SL SK FI SE UE27 ZE19
2011 2016 2021

Figure 8 - Status of healthy life years and children under 3 years of age in formal care programs across EU27 countries in 2011, 2016 and 2021

Source: Eurostat, author processing

With regard to children enrolled in formal care programs as a share of the population sample of the same type (children), we note that the COVID-19 pandemic has put an obvious negative emphasis, also observable at the level of the EU27 and EE19, by the slight reduction of the indicator in the last period. Over the entire period of analysis, 2011-2021, we note that Denmark,

the Netherlands and Sweden occupy the leading places, while countries such as Slovakia, the Czech Republic and Poland are in the last places in the ranking of the performance of the indicator.

If we analyse the employment rate and the share of public investments in GDP, by institutional sectors (Figure 9), we can see that the indicators have some correspondence, public investments being generally found, at the level of society, in a higher level of employment.

For example, over the entire period of analysis, the lowest employment rates are noted in the countries: Greece, Romania and Italy, while the countries with very high employment rates are: Sweden, the Netherlands and Germany. Regarding the share of investments in GDP, by institutional sectors, for the entire period of analysis, the last places in the ranking are: Greece, Portugal and Cyprus, while the most significant investments, as a share of GDP, are made by: Ireland, Estonia and Czech Republic.

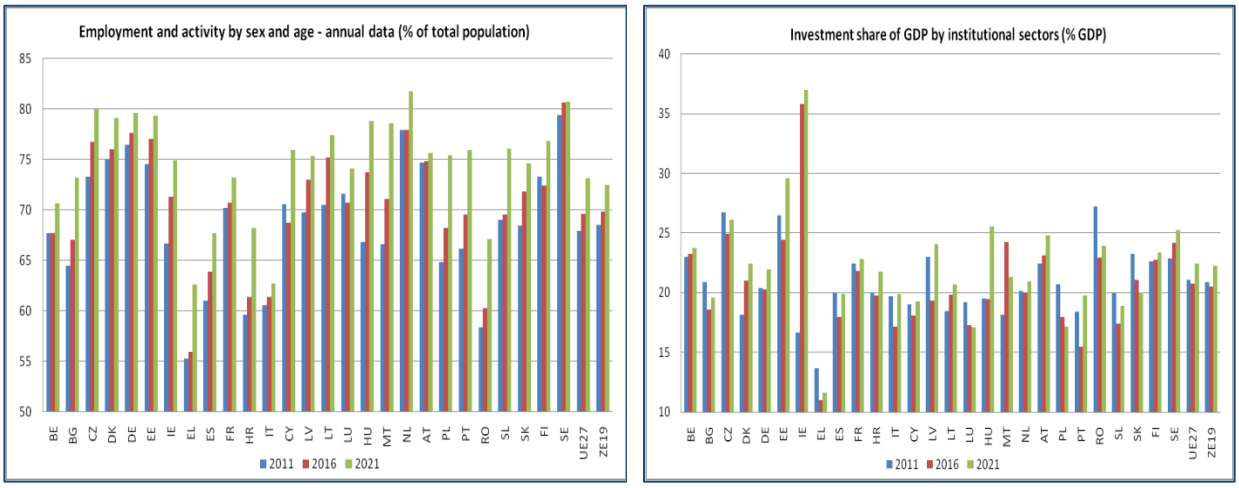
Employment and activity by sex and age - annual data (% of total population)
85
80
75
70
65
60
55
50
BE BG CZ DK DE EE IE EL ES FR HR IT CY LV LT LU HU MT NL AT PL PT RO SL SK FI SE UE27 ZE19
2011 2016 2021
Investment share of GDP by institutional sectors (% GDP)
40
35
30
25
20
15
10
BE BG CZ DK DE EE IE EL ES FR HR IT CY LV LT LU HU MT NL AT PL PT RO SL SK FI SE UE27 ZE19
2011 2016 2021

Figure 9 - The situation of the employment rate and the share of investments in GDP by institutional sectors at the level of EU27 countries in 2011, 2016 and 2021

Source: Eurostat, author processing

The budget deficit can influence in the short term the situation of investments, budget expenditures, investment directions, but it can also put pressure on the subsequent rethinking of the budget, expanding or reducing the area of social investments in the near future. Thus, Figure 10 shows, on the one hand, the situation of the budget deficit, and on the other, the situation of current taxes on income and wealth, considered important for the well-being of the population.

Regarding the budget deficit and surplus in EU27, during the entire period of analysis, countries such as: Luxembourg, Denmark and Germany allowed, through the budget surplus (for certain periods) but also very modest budget deficits, manoeuvring gates for more substantial public investments in society but also safety nets for the near future. Others, such as Spain, Greece and France, throughout the analysis period, raised the stakes of the importance of external borrowing and/or taxation to achieve budget balances. The year 2021 ranks Denmark, Luxembourg and Sweden among the best performers regarding the budget balance, while the most pronounced deficits are noted in the case of the countries: Malta, Greece and Latvia.

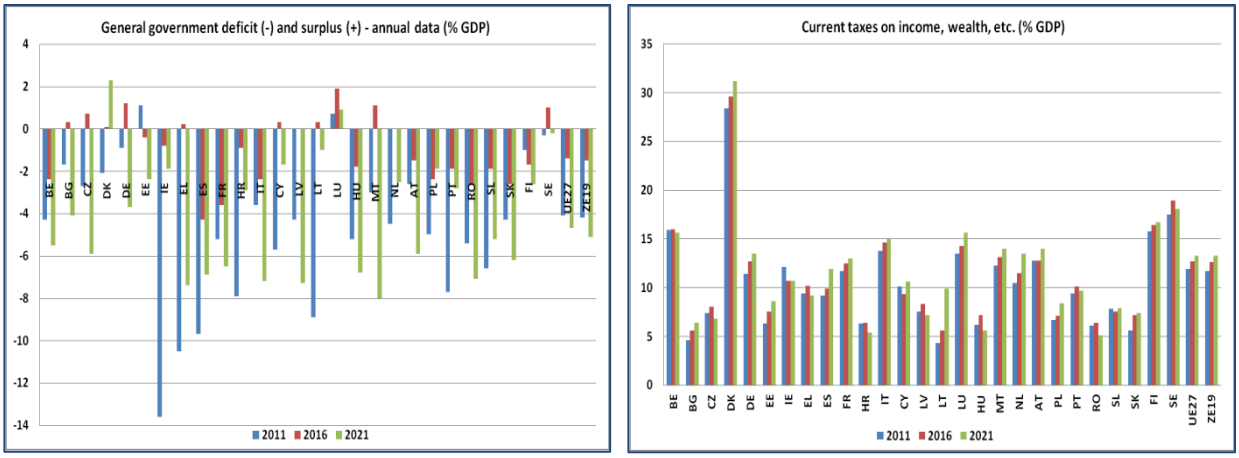
General government deficit (-) and surplus (+) - annual data (% GDP)
4
2
0
-2
-4
-6
-8
-10
-12
-14
BE BG CZ DK DE EE IE EL ES FR HR IT CY LV LT LU HU MT NL AT PL PT RO SL SK FI SE UE27 ZE19
2011 2016 2021
Current taxes on income, wealth, etc. (% GDP)
35
30
25
20
15
10
5
0
BE BG CZ DK DE EE IE EL ES FR HR IT CY LV LT LU HU MT NL AT PL PT RO SL SK FI SE UE27 ZE19
2011 2016 2021

Figure 10 - The situation of the public deficit or surplus and current taxes on income and wealth at the level of EU27 countries in 2011, 2016 and 2021

Source: Eurostat, author processing

Considering current taxes on income and wealth, as a share of GDP, we note that, over the entire period of analysis, 2011-2021, the highest taxes were recorded in countries such as: Denmark (30.3% of GDP), Sweden (18.1% of GDP), and Finland (16.2% of GDP), and the lowest in Bulgaria (5.5% of GDP), Romania (5.7% of GDP), and Croatia (6.2 % of GDP). At the level of 2021, the top of the countries with the highest taxes on income and wealth remains unchanged, while the first three countries with the lowest taxes on income and wealth are occupied by Romania, Croatia and Hungary.

Conclusions

Globally, the post-pandemic economic recovery appears to be stalling, with employment still unable to return to pre-COVID-19 levels. At the same time, the pandemic affected the important geographical regions of the world as well as the economic sectors in different ways, the sectors with seasonal, temporary, volatile activity or with high exposure to the need for human contact being mainly exposed (e.g., the field of hospitality, tourism and transport). Equally, some of the decent labour gains achieved before the pandemic have been significantly affected, and pre-existing labour shortages are dampening the prospects for a sustainable recovery in many regions, with the world's low- and middle-income countries particularly affected. In these areas, working conditions have deteriorated and social inequality has increased. According to the World Inequality report 2022, inequality is a political choice, not an inevitability, and that wealth and income inequalities within countries have narrowed for most of the 20th century, but the bottom 50% share of income has always been very low, suggesting the need to redistribute wealth to invest in the future, especially in education, health and ecological transition.

Based on the resilience reports of the European Commission, considering the importance of the link between the resilience indicators of capacities and vulnerabilities, the article aims to demonstrate, exclusively based on Eurostat data, the link between a series of indicators of the socio-economic field at the EU27 level, seen as indicators of vulnerabilities and capabilities. The selected indicators include 10 indicators of vulnerabilities and 10 capabilities, and the analysis period is 2011-2021.

In terms of vulnerabilities, during the period of analysis, 2011-2021, the flank of the eastern and southern countries of the EU27, and especially Greece, experienced considerable difficulties

regarding indicators such as: poverty risk rate, income inequality indicator, self-reported unmet needs indicator on the medical examination, the employment gap between men and women, the indicator on young people who do not have a job, nor follow an education and training program, long-term unemployment and the evolution of the public debt.

At the same time, Nordic and some central European countries performed well in these indicators. Equally, with regard to employment in resource-intensive fields, highly industrialized countries (e.g., Germany, Italy, Luxembourg, France, etc.) are much more exposed to possible dangers than countries with a lower level of industrialization, such as the countries of the south-eastern flank of the EU. A similar situation occurs in areas with a high risk of automation. Thus, countries such as: Germany and Italy, and to a lesser extent, France, Poland and Spain may be affected by the transition to an economy with an important component in automation, and the energy crisis may hit hard in countries with massive employment in these fields (energy intensive and subject to the risk of automation).

In terms of capabilities, the situation remains somewhat similar to vulnerabilities, with the countries of the south-eastern flank performing relatively poorly compared to the northern or western continental countries. Thus, indicators such as: the impact of social transfers on poverty reduction, the saving rate of households, the situation of public expenditure on functions such as education, health and social protection, the situation of standardized preventable and treatable mortality, the indicator of children enrolled in formal care programs as a share in the number of children, employment rates, the share of investments in GDP, by institutional sectors, the budget balance, but also the situation of current taxes on income and wealth demonstrate the precariousness of some institutional capacities of southern and eastern European countries.

Thus, we observe that countries that have a fiscal regime based on a higher level of taxation and a more rigorous administration of budget deficits and public debt, equally invest more in the economic, social, educational and medical well-being of the population, in while many countries, especially in the South-East, which consider it necessary to maintain low levels of state intervention in the economy, through generally low taxes, weak budgetary rigor and expansive public debt, equally show insufficient interest in offering appropriate social, medical or educational services to the population.

Future Directions

Considering the natural limitations of the study (a limited period, a certain region of the world, a simplified empirical analysis, etc.) there is the opportunity to continue it through extensive econometric, theoretical and empirical studies.

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POVERTY, EDUCATION AND ECONOMIC GROWTH: A CASE STUDY OF WESTERN BALKAN COUNTRIES

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Dea SKRAME[6]

Abstract:

Earlier studies have shown the impact of education in poverty alleviation and the attainment of economic growth in developed economies. This paper analyses the effect of poverty and education on the economic growth of Western Balkan countries: Albania, Bosnia and Herzegovina, Croatia, Kosovo, Montenegro, Republic of North Macedonia and Serbia. Both quantitative and qualitative methods were used in the analysis (graphical analysis, descriptive statistics and EViews econometric model). The data were sourced from World Bank for the period between 1990- 2020 and findings from the econometric model show an inverse relationship between poverty and economic growth and a positive relationship between education and economic growth in Western Balkan countries. The results further buttresses the need for better investment in education in order to improve the skills of the labor force, boost productivity and invariably bring about sustainable economic growth.

Keywords: *Poverty, Education, Economic Growth, Western Balkan, Income inequality*

JEL classification: *J24, I24, I32*

1. Introduction

The Western Balkan (WB) countries of Albania, Bosnia and Herzegovina, Croatia, Kosovo, Montenegro, Republic of North Macedonia and Serbia are in a period of economic transition from the war, destruction of institutions and social exclusion that characterized the communist era. Several policies have been put in place to speed up their transition process and also to achieve their desire to join the European Union (EU). These policies have yielded different results based on the peculiarities and needs of the individual nations in terms of economic institutions, level of educational attainment, corruption, access to finance and foreign direct investment etc.

Poverty is multifaceted and can be described both in absolute and relative terms. For the developing economies of Western Balkan countries, poverty is referred in absolute terms as the lack of financial capacity to afford the basic needs of life. This measure is given by World Bank as living below 2dollar a day. Lack of access to free and quality education by poor people across the WB countries is seen as one of the factors that have led to the vicious cycle of poverty where there is low savings and investment as a result of low income and correspondingly low productivity leading to slower economic growth.

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High level of poverty is a common factor among WB countries and their individual rate of poverty differs due to weak institutions, wrong policy implementation, income inequality, educational attainment, impact of EU membership status amongst others. This study aims at highlighting the differences in the rate of poverty among the WB countries and the impact of education on poverty reduction or alleviation and economic growth.

The level of Education on the other hand is seen to be high amongst the WB Countries though the impact on growth is not highly noticeable due to various reasons like brain drain, weak policies and inefficient implementation, corruption amongst, other reasons. Earlier studies have shown the linkage between education and higher incomes as stated by (Van der berg, 2008) “Better educated people have a greater probability of being employed, are more economically productive and therefore earn higher incomes.” On the Individual or household level, the more educated an individual or household is, the more job opportunities open to such bringing about a higher income and living standards and in the same way on the economic level, the higher the educational attainment of the population, the greater the productivity, the more the international competitiveness, the lesser the obstacles to doing business, and the higher the impact of attracting foreign direct investment (FDI) and ease of doing business which ultimately results in economic growth.

It will be revealed further in this study, that due to the ambiguous nature of education, Investment in education should not just be focused on the quantity of education alone but also on the quality of education in order to achieve the desired long-run positive effect on the economy. Section 2 of this study consists of the literature review of earlier related studies and how it relates to the Western Balkan countries, section 3 refers to the data and methodology part where data from the World Bank between 1990 and 2020 will be utilized through graphical presentations, econometrics model and descriptive statistics to show the impact of poverty and education on economic growth in the western Balkan countries, section 4 shows the analysis of results and discussion of our findings while section 5 contains the conclusion where several other factors that affects economic growth including government policies, regional co-operation, political stability etc. will be highlighted.

2. Literature Review

Education

2.1 The ambiguous nature of education

In the conscious collective, education is undoubtedly considered as the passport for the future. It helps you to master a set of skills, to find a good job, to shape you intellectually and professionally and in general, it gives you a sense of security when travelling down the unknown paths of life. As it does this for the individual, analogically gives something to the economy in the long run. However, in recent times academic achievements have become more of a task to get over with as an inevitable part of life and then beat your chest about them. Some econometric analyses show that there lies no significant correlation between education and economic growth and often it’s poorly measured (Van der Berg, 2008). Sometimes when conducting the analysis, it is needed to add a dummy variable and the results express actually a negative relationship between the two components, being education and economic growth (Barro & Lee, 2010). The reasons for this are usually qualitative, such as: family background, the country the individual lives in, intelligence, literacy and numeric skills, the level of education etc. Suwoto & Zhai (2016) have stated that even if education is individually insignificant, it does have a joint effect on GDP growth in conjunction with other control variables. Education is closely linked with human capital, physical capital (Afzal, Malik, Begum, Sarwar & Fatima, 2012), labor productivity and output (Barro & Lee, 2010), all of which will be analyzed further in this paper.

2.2 The benefits of education

It was discovered that schooling was closely related to economic growth in the case of Hong Kong, Korea, Singapore and Taiwan on account of the investments made on education. However, it's not a matter of pouring more money in the budget of this sector, it's about knowing how to invest on quality education, consolidating strong institutions and providing equal access to everyone (Chaudhry & Rahman, 2009). Research has shown that quality-adjusted education improves a poor country's economic growth and consequently generates more opportunities and incomes (Van der Berg, 2008). The reason why economic growth is boosted and poverty is alleviated, is because human capital is influenced positively by creating skillful and competent workers and by strengthening the workforce. When a country is supplied with a proficient human capital, it means that its output and labor productivity will be increased (Barro & Lee, 2010) and investors are more attracted to said country (Afzal, Malik, Begum, Sarwar & Fatima, 2012). Human capital is incorporated with two econometric models used to show economic growth: the augmented Solow model and the endogenous growth models (Morrison & Morrison, 2007). A common variable found in both of them is technology. With a skilled human capital, the chances of implementing new technologies are more feasible. For example, while a country with a low educated labor force is looking for workers with basic literacy and numeric skills, a developed country continues to enhance its economy with faster levels by absorbing advanced technologies, because its educated labor force allows it to. (Barro & Lee, 2010). Apart from microeconomic and macroeconomic benefits, education helps create as well ~~as~~ knowledgeable citizens and better living standards for them. Education changes people's behavior (Van der Berg, 2008). When better alternatives are missing, some are obligated to turn to crime, violence, drug dealing.

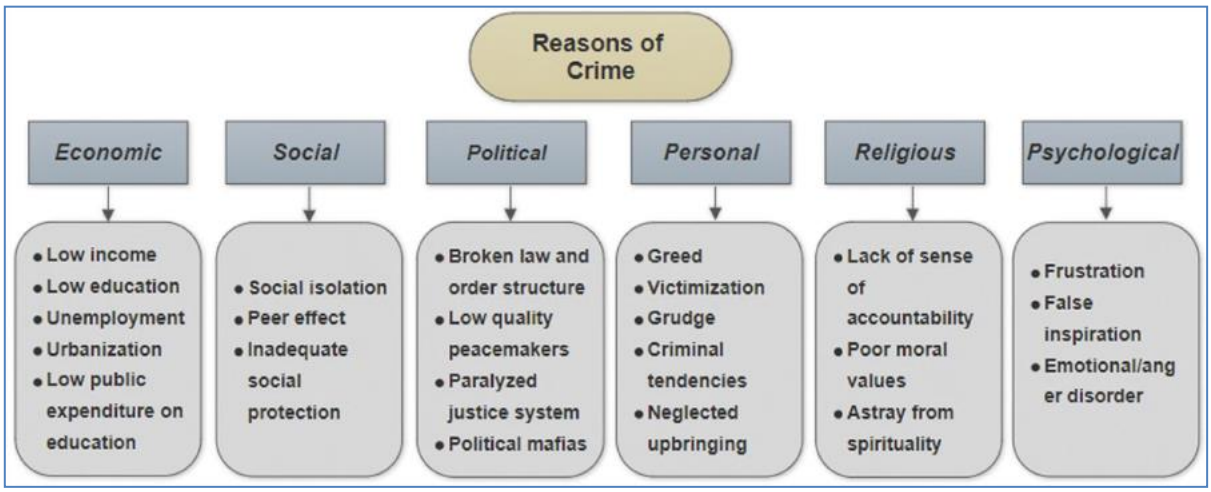

Figure *2.2.1:* Reasons of crime

Source: Furqan & Mahmood, 2020

From the figure above can be seen the economic reasons for the emergence of crime rates are connected to low investment in education. As said before, better education generates higher wage rates, lowers unemployment and improves the living standards for the communities. One side of the last benefit can be seen in the form of regional cooperation, very important for the countries of Western Balkan. It's not only that citizens become more aware of the relationships with neighbor countries, but eases the flow of people, goods, services and capital, hence increasing the competitiveness of relatively small economies (Sanfey & Milatovic, 2016).

2.3 Different rates of return from different levels of education

Van der Berg (2008) states that previously it was thought that primary education yielded higher returns on investment, so for a long time, investment was interested and focused on the primary level. Recent studies believed that if a strong foundation is laid on early childhood, then there would be less risk of school leaving, meanwhile, social integration, personal development and capacity for employment would be favored (World Economic Forum, 2020). However, the picture is much more complex than this, because social mobility should also be taken into consideration. For example, even if education improves job prospects for poor groups, still the returns to education would be smaller due to discrimination. Some findings have concluded that primary education contributes to the economic growth in low income developing countries, secondary education to the economic growth in middle income countries and tertiary level to rich countries (Van der Berg, 2008). A factor for such incoherence can be the supply of educated workers. In Macedonia, for example, unemployment is low among workers with vocational training and tertiary education, but the country suffers from a labor force with mismatched qualifications and high levels of emigration (Idris & Strachan, 2017). The demand for more educated labor increases as a country develops (Murphy & Welch, 1994). This increase in demand causes educational output to adjust accordingly, consequently increasing the returns to higher levels of education (Van der Berg, 2008). Barro & Lee (2010) on their econometric analysis pointed out that the rate of return to an additional year of schooling is higher at secondary and tertiary levels than at primary level. In Montenegro it was found that the highest poverty rate was found among the part of population with only primary level education (Idris & Strachan, 2017).

2.4 Education in Western Balkan

In Western Balkan the government has adopted new laws and strategic documents so as to enhance educational outcomes, to increase participation and inclusion and to better match labor market needs. However, these policies are sporadic. Participation rates in compulsory education are high, but not in tertiary education (Regional Cooperation Council, 2021).

Looking at data, Western Balkan countries share common problems that affect and slow down the acceleration of economic growth which are in alignment with education. These are: property rights, low productivity, competitiveness, and regional cooperation. Each of them will be analyzed respectively.

2.4.1 Property rights

According to an estimated OLS model, property rights and economic freedom increase the magnitude of schooling, meaning that institutions reduce poverty by strengthening human capital (Norton, 2010). Albania, Kosovo, Bosnia and Herzegovina, Montenegro, North Macedonia and Serbia have all endured a long period under a communist regime and they are still suffering from the consequences of the aftershock from exiting the system. One of these problems is precisely the process of property privatization, which has progressed unevenly. In Albania, in 2007, large-scale companies, especially those in the telecommunications sector, were privatized. In Kosovo, the process was interrupted due to uncertainty over its legality. In Bosnia and Herzegovina this process was uneven and in Serbia there is no strategy and the state intervention remains substantial. Whereas in Montenegro, only after the new constitution in 2007, restructuring and privatization are active and they are focusing on major utilities (European Commission, 2009). The importance of property rights lies not only on its positive relationship with education, but also because private enterprises make up the biggest contributors to economic output for this region.

2.4.2 Low productivity

Sanfey & Milatovic (2018) have stated that low productivity is slowing down the development of Western Balkan because of years of under-investment, weak institutions and difficult business environment. For example, these countries are characterized by creating family and friend relationships in their businesses, instead of following the professional procedures of recruitment.

In Serbia the high productivity at a firm level is linked with better corporate governance. On the other hand, econometric results show that only for the case of North Macedonia levels of productivity can increase if the quality of higher education and training increases (World Economic Forum, 2020).

Omic & Handleand suggest that if Western Balkan desires to achieve economic growth, then it is necessary for it to have higher productivity and more advanced economic activities. Higher productivity will help attract and create high-quality jobs (from which the region suffers) and it will increase the living standards (which as well are problematic). Gross level productivity growth rates are below the EU average. However, between 2000 and 2019, Western Balkan countries had labor productivity growth rates above the EU rates, with the exception of Montenegro and North Macedonia (2021).

2.4.3 Competitiveness

In the Western Balkan region there is a lack of competitiveness due to the high unit labor costs and large structural problems (Reiter, Schwarzhappel & Stehrer, 2020). The existing social foundation isn't strong enough to support the human capital and the development of those remaining behind, thus undermining the human capital competitiveness of these nations. This results in a vast migration in the high-skilled citizens. Competitiveness can be boosted by increasing productivity and investing more in advanced technologies (Omic & Handeland, 2021). As it was noted down beforehand, productivity and technology have a positive relationship with economic growth and they can be increased by investing in quality education, which in turn will create an educated, competent and high-skilled human capital. The problem of an inadequately educated workforce is considered an obstacle when doing business. Kosovo has the highest percentage at 6.3 whereas Albania and North Macedonia have both the lowest at 1.9. Even though the Western Balkan region claims reasonably positive indicators with quality of health and primary education, technological readiness and higher education, except for the on-the-job training, competitiveness remains problematic. Regional cooperation is seen as a unique and efficient way to boost competitiveness between the countries (Sanfey & Milatovic, 2018). Albania and Kosovo have very good relations and in 2016 the two countries signed some mutual agreements that include customs, taxation, public administration, transport and environment (Idris & Strachan, 2017). Zeneli (2014) states that as the Western Balkan countries are in desperate need of modernization, institutional transformation and economic growth, they should focus on deeper regional cooperation.

2.5 The relationship between education and poverty

Throughout the paper it was seen that education has a direct linkage with poverty as it helps fighting it. Van der Berg (2008) has noted three mechanisms that explain why their relationship works that way:

a. The more educated the citizen, the more they earn.
b. Since education boosts economic growth, the latter broadens the opportunities for citizens and improves the quality of income
c. Education brings wider social benefits

Poverty

Poverty is the lack of capability to function effectively in society. There are two types of poverty: absolute and relative. The absolute view means that a citizen is lacking even minimal resources and is mostly found in developing countries. The relative view hampers the ability of the citizen to participate actively in the society and is found in developed countries (Van der Berg, 2008). The reduction of poverty has become the fulcrum of economic agendas and development policy, especially since the 1990s. The Western Balkan region is still facing a state of transition, meaning that the problems surfacing after changing the political regime are still present. Matković (2006) explains that the population of this region used to live in relatively high living standards and when Communism fell, the expectations were higher. The subjective perception of poverty in Western Balkan is present. The economic growth that the Western Balkan region experienced until 2009 helped reduce poverty and reduce slightly unemployment and increased living standards (Omic &

Handeland, 2021). The share of low-wage earners is relatively high and this results in it's called in-work poverty. Western Balkans are generally characterized by high poverty and is the most pervasive in the underdeveloped areas and among that part of the population where unemployment is high, social protection is inadequate and social service low (Regional Cooperation Council, 2020). The poverty rates in the region according to Regional Cooperation Council (2021) and (EWB Archives, 2017) are the following:

a.Every person in Albania risks poverty or social exclusion. In Albania 25% of the population lives with less than $2 per day and the rural area is 66% poorer than Tirana due to the lack of non-farm jobs.
b.In Bosnia & Herzegovina more than 25% of the population lives under the poverty line.
c.30% of the entire population in Kosovo and 50% of its elderly group live in poverty. The latter is due to the fact that transition had a negative impact on pension schemes.
d.Because Macedonia suffers from high unemployment, one third of the population lives in poverty.
e.The south eastern region of Serbia is the most struck by poverty and 25% of the general population is seen as poor.
f.Less than 10% of the population of Montenegro lives in poverty. Its rates remain high in comparison to EU averages and the most affected are children, people with disabilities and Roma & Egyptian.
g.Croatia suffers from acute poverty. The recession in 2015 didn't only intensify it, but also increased child poverty to 50%.

A way to reduce poverty is by strengthening social protection and inclusion, as suggested by many EU representative institutions. Social protection includes easier access to health, social protection benefits and high-quality services. By doing this, living standards and equality will increase (Regional Cooperation Council, 2020).

The reduction of poverty can be reached through economic growth and/or distribution of income. Since Western Balkan has a slow economic growth, the nature of its relationship with it and in order to understand such relationship should be seen, so growth elasticity of poverty comes into play. Growth doesn't shift inequality, the higher the economic development, then the slimmer poverty will become. This important result has a dual meaning; that for a rich country is easier and faster to achieve this. An increase in alpha will lead to a proportional decrease of poverty. In this case the reduction of poverty will affect both the poor and the ultra-poor. However, as good as it may seem, this doesn't happen in reality. The relationship between economic growth and poverty is much more complex than a play of variables (Son & Kakwani, 2004). A crucial variable to be taken into consideration is inequality. In countries with relatively more inequality, economic growth is less effective in reducing poverty (Lustig, Arias & Ligolini, 2002). The relationship between inequality and economic growth is tricky. When poverty is less than 25%, it is found that this relationship is statistically insignificant. For higher levels of poverty, inequality affects economic growth negatively. Consequently, there exists a mechanism to fight poverty through the reduction of inequalities in society. This mechanism will increase human capital, physical capital and income ownership, which in return will create a more productive workforce. Another important element affected by this mechanism is investment; investment will increase and it will be easier to adopt new technologies (Breunig & Majeed, 2020). Another downside brought by inequality is political instability. For example, when capita per income is very low, the pressure from social groups can cause inefficient political practices which will aggravate the adverse effects of macroeconomic shocks on growth and the impact of incentives taken for capital accumulation will diminish (Lustig, Arias & Ligolini, 2002). Unfortunately, in this sense, these populations have cultivated a morbid silence when faced in front of injustices and are victims of archaism and passivity, and if they continue like this, the likelihood is that this situation will not happen.

This study is meant to address the following research questions:

R1. What is the impact and direction of relationship between poverty and economic growth of Western Balkan countries?

R2. What is the impact and direction of relationship between education and economic growth of Western Balkan countries?

R3. Will an educated workforce bring about income redistribution and economic growth?

3. Data and Methodology

All the data used in this paper are retrieved from World Bank. The collected information is used to draw graphs, to make analysis, to build the econometrics model and the descriptive statistics, to check the significance of the variables and also to identify the difference between Western Balkan countries on the poverty, education and economic growth.

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3.1Observations

The main aim of this paper is to check the effect that the explanatory variables such as poverty and education have on the dependent variable or said it differently on the gross domestic product (GDP). The data which are taken into examination refer to the Western Balkan countries for a period of 30 years from 1990 to 2020.

3.2Data Analysis

EViews program has a key role in this research because it leads to concrete results. First, it will be presented a data specification table which will include necessary information for the variables, their unit of measurements and the source. Secondly, it will be shown a table with a representation of the expected sign of the variables. Furthermore, graphical analysis for each of the variables will be shown, thus discussing in this way the reasons of their ups and downs. Along with the significance, it will be conducted the econometrics model and its analysis.

Table 1

Data specification

Variable	Unit of measurement	Expected sign	Source
Poverty	Measured in %	- Breunig & Majeed (2020), Lustig, Arias & Ligolini (2002), Norton (2010).	World Bank
Education	Measured in %	+ Barro & Lee (2010), Suwoto & Zhai (2016), Chaudhary & Rahman, (2009).	World Bank
GDP	Measured in %	+ Van der Berg (2008), Murphy & Welch (1994), Afzal, Malik, Begum, Sarwar & Fatima (2012).	World Bank

3.3Graphical Analysis

3.3.1Poverty

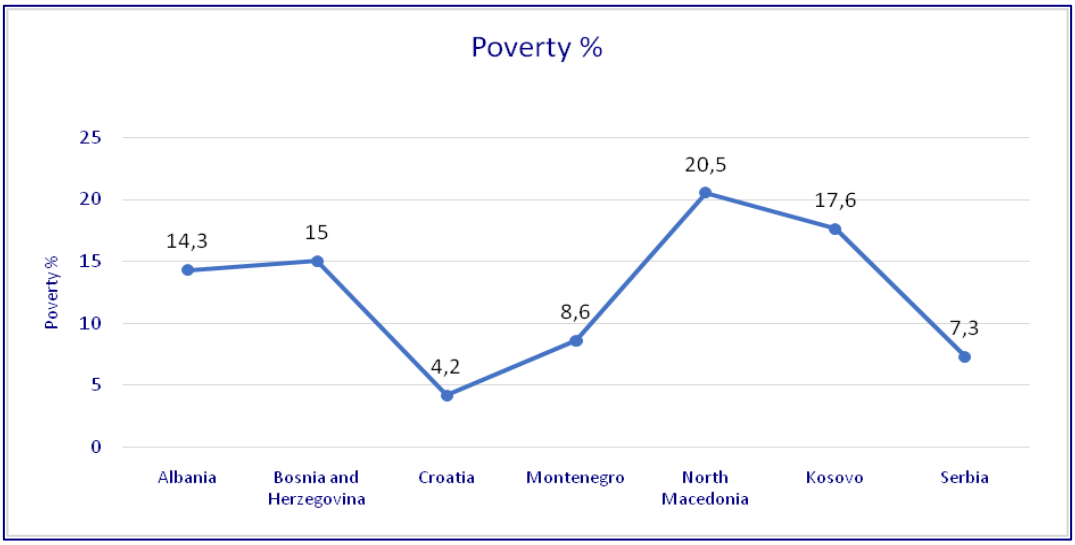

Figure 1. Percentage rate of poverty for Western Balkan (WB) countries, 2019

Source: Author's own work

According to (World Bank, 2020), each individual who lives with less than 1.90 dollar per day is considered poor. As it is shown in the graph, all of the countries have various percentages of poverty in which some of them are higher and others lower. North Macedonia is considered as the country with the highest level of poverty. Countries like Kosovo with 17.6 %, Bosnia and Herzegovina with 15% and Albania with 14.3% are the ones with the highest level of poverty after North Macedonia. Some of the factors which have affected these high values are the policies implemented in the wrong way by the government and the transition of these countries from communism to democracy. Meanwhile, some of the countries with the lowest percentages of poverty are considered Montenegro 8.6%, Serbia 7.3% and both of them are strong candidates for becoming part of EU. As per the country with the lowest level of all of them is a member of EU, thus, Croatia with a percentage of 4.2.

3.3.2.Education

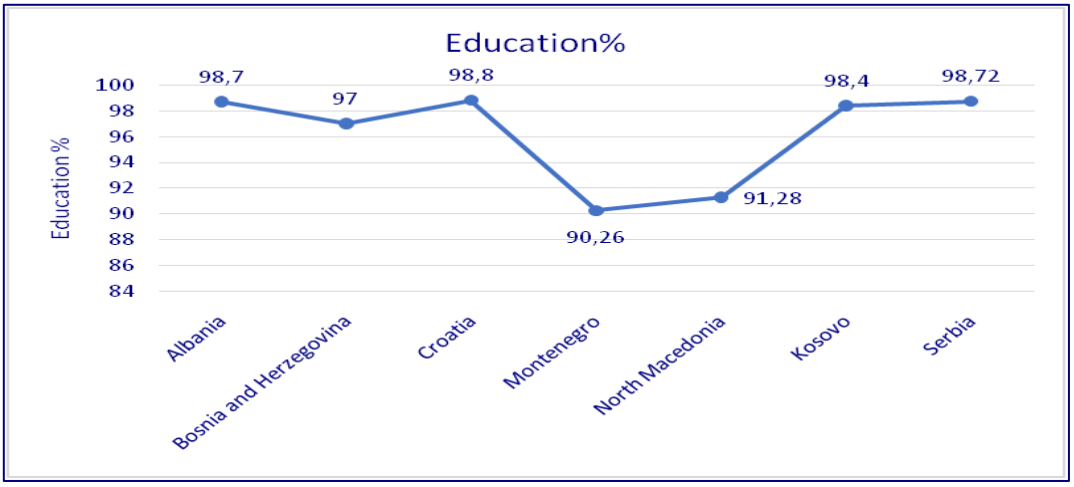

Figure 2. Percentage rate of education for Western Balkan (WB) countries, 2019

Source: Author's own work

According to Al-Shuaibi (2014), education could be defined as the factor with the highest impact in being successful, having new opportunities and a better life in the future. All of the countries are considered to have high values of education. As it is shown in the graph, Croatia has the highest level of education compared to the other Western Balkan countries with a percentage of 98.8. One of the main reasons could be the fact, as explained also above, that Croatia is EU member and have more opportunities. After that, the following countries are Serbia (98.72%), Albania (98.7%), Kosovo (98.4%), Bosnia and Herzegovina (97%), North Macedonia (91.28 %) and lastly Montenegro (90.26 %). This difference among the percentages of these countries could be related with the fact that besides Croatia, the other countries are not member of European Union. In general, the gap between them is considered small, except Montenegro which has a higher difference. This may come as a result of the fact that they got their independency in 2006, thus later than the other countries. Along with it, the changes made to the education system have pushed students to choose other universities in their neighbor countries such as Serbia, Albania etc.

3.3.3. Economic growth

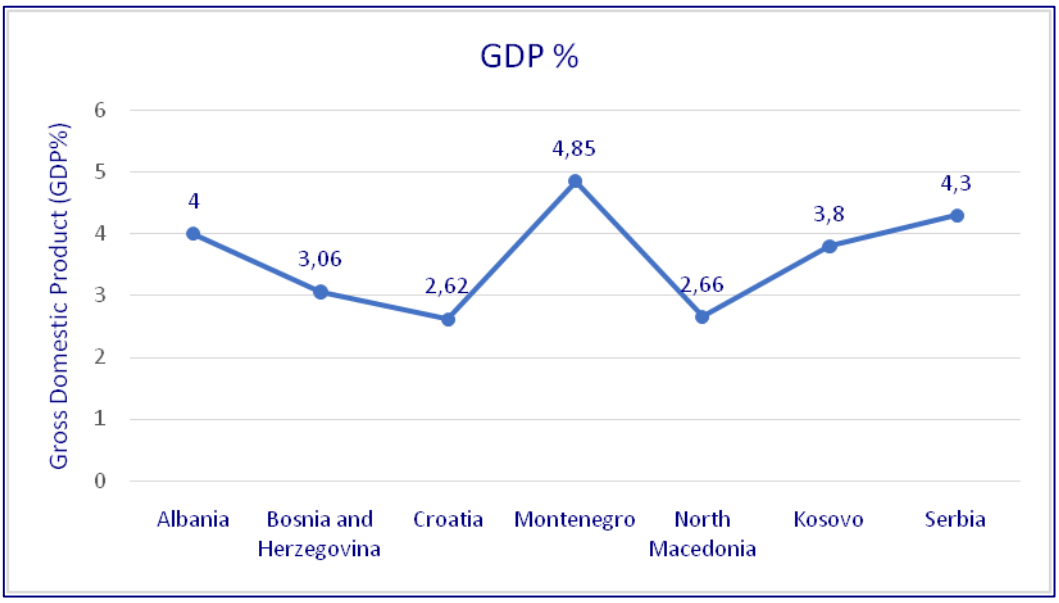

Figure 3. Percentage rate of GDP for Western Balkan (WB) countries, 2019

Source: Author's own work

According to Callen (2018), gross domestic product (GDP) is defined as an economic indicator that demonstrates all the produced products of a country in a fixed period of time. In the above graph are shown the values of GDP for each country of the Western Balkan. Montenegro is the country with the highest value of GDP with a percentage of 4.85 and this has come as a result of the new improvements in the economy. Based on the low level of GDP with a percentage of 2.62, it could be said that the growth of the economy of Croatia has slowed down. There is a considerable gap between countries with high GDP such as Montenegro, Serbia and countries with low GDP like Croatia or North Macedonia. This slowdown may have been caused by problems related with the politics along with the implementation of the wrong policies by the government. According to Bank of Albania (2017), there is an increase in the percentage of the GDP of Albania from 3.8% to 4%. Besides that, it is ranked as the third country with the highest percentage of gross domestic product. As it is shown in the graph, Kosovo has a rate of 3.8%, lower than the other countries but this has come as a consequence of the late independence, thus it has developed later than the other ones. The low values of GDP are significantly related with one of the independent variables such as poverty. Hence, a high rate of poverty causes a decline in the economic growth. On the other hand, the high values of GDP are related with the other independent variable which is education. An increase of human capital means more skilled employees, new opportunities, advanced technology, thus a more developed country.

3.4 Econometric analysis

In order to make the descriptive statistics, various tests, the model of econometrics, it is needed the EViews program. All the retrieved data refer to the Western Balkan countries for the period of time from 1990 to 2020.

3.4.1Normality

Starting with the normality test to check if it is normally distributed or not. The hypotheses for this test are as below:

Null Hypothesis: Normally Distributed

Alternative Hypothesis: Not normally distributed

Table 2

Normality Test for WB

Probability	0.932626
Jarque - Berra	0.091321

Source: Author's own work

As shown in the above table the probability value is 0.93 which means greater than the significance level 5%. Thus, it fails to reject the null hypothesis and the model is normally distributed.

3.4.2Heteroskedasticity

This test will lead to a conclusion if there is heteroskedasticity in the model or not. The hypotheses are:

Null Hypothesis: No heteroskedasticity

Alternative Hypothesis: Heteroskedasticity

Table 3

Heteroskedasticity Test for WB

df	Probability
6	0.6321

Source: Author's own work

Since the probability value is 0.6321, it means is greater than the significance level of 0.05. Hence, the null hypothesis will not be rejected and the model has no heteroskedasticity.

3.4.3. Hausman test

This test will be done in order to check if there is a fixed or random effect on the model. The hypotheses are:

Null Hypothesis: Random effect

Alternative Hypothesis: Fixed effect

Table 4

Hausman Test for WB

Probability	0.1

Source: Author's own work

The null hypothesis for this test will be rejected since the probability value is 0.1 which means it is equal to the significance level of 1%. The model has fixed effects.

3.4.4Descriptive Statistics

Table 5

Descriptive Statistics

Variables	Mean	Median	Maximum	Minimum	St. Deviation	Skewness	Kurtosis
GDP	3.82	1.88	3.71	1.33	4.21	0.05	1.34
Poverty	12.4	14.21	27.33	3.29	6.38	-0.16	1.81
Education	89.2	84.26	98.69	82.34	5.14	-1.63	2.39
Unemployment	12.1	16.33	19.03	4.21	9.33	-0.14	1.02
GINI coefficient	3.24	1.32	8.31	1.24	8.42	-1.42	2.83

Source: Author's own work

In the above table is demonstrated the descriptive statistics of the dependent and independent variables in the percentage form. First it is shown GDP which has a mean of 3.82% and a middle value of 1.88. The values of maximum and minimum are respectively 3.71% and 1.33%, hence the difference among them is high. This explains also the high percentage of the standard deviation. The value of skewness is 0.05 which means it is greater than zero, thus the distribution is right skewed. The curve has a peak because the value of the Kurtosis is 1.34, so less than 3. Furthermore, the independent variables have an average value with a percentage of 12.4 for poverty and 89.2 for education. Regarding the middle values, poverty is 14.21% and education 84.26%. Since the maximum and minimum of poverty are 27.33% and 3.29%, the standard deviation has also a high percentage rate of 6.38. This occurs the same with the other explanatory variable which is education. Its standard deviation is 5.14%, thus a high value. Also, it is related with the high difference between the percentages of maximum and minimum. The skewness for poverty is -0.16 and for education is -1.63. This means their values are less than 0, thus they are left skewed. In both variables, the Kurtosis is less than 3, hence their curve has a peak. Furthermore, there are two more independent variables that help to get a better result. Unemployment has a mean of 12.1% and a median value of 16.33. Its maximum and minimum values are 19.03 and 4.21 respectively. Since the difference among these values is high, the standard deviation has a percentage rate of 9.33. The skewness for unemployment is – 0.14, thus negative and lower than zero, it means it is left skewed. Its curve will have a peak because the value of Kurtosis is 1.02, hence lower than 3. Lastly, the GINI coefficient will help in determining the values for the income inequality. The average and the median values of it are 3.24% and 1.32%. The standard deviation of this variable is 8.42, thus a high percentage. This occurs because the values of maximum and minimum are 8.31 and 1.23 respectively, so their

difference is high. It is left skewed because the value of it is lower than 0 and its curve has a peak since it is lower than 3.

3.4.5Econometrics model

Table 6

The probability, t-Statistics, standard error and the coefficient for the variables of the model

Variables	Coefficient	Standard Error	t-Statistics	Probability
Poverty	-0.068	0.068	-0.524	0.0135
Education	0.165	0.238	0.196	0.0026
Unemployment	-0.034	0.045	-0.241	0.0133
GINI coefficient	-0.039	0.063	-0.063	0.0114
C	6.521	11.726	0.283	0.0005

Source: Author's own work

In the above table are demonstrated the values of probability, t-Statistics, standard error and the coefficient for the variables. Based on them, it could be forming the econometric model:

$$GDP= \beta 0+ \beta 1pov+ \beta 2edu+ \beta 2unemp+ \beta 2Gini$$

$$GDP= 6.521 - 0.068pov + 0.165edu- 0.034unemp- 0.039Gini$$

The equation is based on various researches which have studied the relationship between the gross domestic product (GDP), poverty, education, unemployment and income inequality which is measured by the Gini coefficient. Moreover Ncube, M., Anyanwu, J. C., and Hausken, K. (2014), included in the study the independent variable income inequality in order to get a better analysis of the GDP. Unemployment is the other variable added on the equation. According to BÖLÜKBAŞ, M. (2019), unemployment is considered as one of the major indicators in the economic growth.

As it could be understood by the sign, the variable of poverty has a negative impact on the economic growth, thus when the level of poverty increases the gross domestic product will decrease. Education has the opposite impact if compared with poverty because it has a positive effect in the GDP, hence an increase in the education level will bring a rise in the GDP level too. For 1 percentage increase in poverty, the gross domestic product will decrease by 0.068 Ceteris Paribus. For 1 percentage increase in education, the gross domestic product will increase by 0.165 Ceteris Paribus. Unemployment and income inequality are the other variables which have a negative impact in the economic growth. For 1 percentage increase in unemployment, the gross domestic product will decrease by 0.165 Ceteris Paribus. For 1 percentage increase in Gini coefficient, the gross domestic product will decrease by 0.039 Ceteris Paribus.

Null Hypotheses: Variables are not significant

Alternative Hypotheses: Variables are significant

0.0135<0.05 (poverty); 0.0026<0.05 (education); 0.0133< 0.05 (unemployment); 0.0114<0.05 (Gini); 0.0005<0.05 (GDP)

As it is mentioned above, all the probability values of the variables are less than 5 percent, thus we reject the null hypothesis. So, the variables and the model are significant.

4.Results and Discussions

All the variables which were taken into examination are key elements for the development of a country and its economy. First, there were shown the graphs of each variable for the Western Balkan countries. Croatia, North Macedonia and Kosovo were the countries with the lowest growth of the

economy. In order to better understand, it was explained one of the reasons of this slowdown for Croatia, which was basically the implementation of wrong policies by the government on the economic sector. Also, Croatia is considered as a country with low rate of poverty and high rate of education, thus it has higher standard livings compared with the other Western Balkan countries. North Macedonia is the opposite of it, because of its high poverty rate with a percentage of 20.4% (World Bank, 2018) and its low rate regarding the education level. Albania is one of those countries which has a raise in the gross domestic product rate if compared with the previous year, thus its economy is recuperating. Based on the shown graphs, it could be understood the positive relation that the education and economic growth have. There is one exception which is Montenegro in which exists a negative linkage between the variables. This happens because the majority of the student deicide to study in foreign countries. In order to have more accurate results, it is done the econometrics model referred to a period of time from 1990 to 2020 for Western Balkan countries. It was shown the positive relation between education and GDP because a high rate of human capital brings new chances for the country. Also, it was shown the negative relation between poverty and GDP, thus a decrease in the poverty rate brings a rise in the GDP level. Lastly, based on the values of the probability, it was proved the impact that each variable has on the economic growth because all of their values were lower than the significance level 5%. The results received from this paper were the same compared with the other studies which were mentioned above. According to Breunig & Majeed (2020), poverty has a negative impact on the economic growth. Moreover, Barro & Lee (2010), studied the positive relation between education and gross domestic product (GDP).

5.Conclusions

When working on the research, it was surprising to see that just by increasing education and reducing poverty, economic growth will not be generated that easily. The reason owes to the complex nature of all three. Firstly, it was seen that education has an ambiguous nature and the results from one study to another differ. The econometric analysis of this paper showed a significant and positive relationship between Education and GDP. Secondly, since countries have different levels of development, a common policy will not bring the desired effect universally, so governments should draw practices in coherence with the needs and problems of each country. In Western Balkan there is still no investment in quality education and there is a mismatch between qualifications and market needs. Poverty is an alarming problem in the region and it takes many forms, like child poverty in Croatia or the fact that 25% of the population in Bosnia and Herzegovina live under the poverty line. The econometric model showed a significant and negative relationship between economic growth and poverty among Western Balkan countries. One policy to reduce poverty is the strengthening of social protection and social inclusion, which will increase living standards and equality, which takes us to the second policy suggestion. Where inequality is high, economic growth is slow and less effective in reducing poverty. Fighting inequality will increase human capital, physical capital, income ownership and investment. An adequately educated workforce will bring about international competitiveness and higher income opportunities will increase the social mobility of the poor and lead to income redistribution and economic growth. Quality Education and low poverty levels can be the keys to boost economic growth and rectify it to higher standards.

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THEORETICAL AND PRACTICAL APPROACHES TO PUBLIC PROCUREMENT SUSTAINABILITY

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Abstract:

Public procurement represents an important field both for the performance of state functions and for the economic activity of the country in general. As a result, some techniques for determining the capacity of the country's public administration to honor the financial commitments assumed by contracting the purchases of goods, works, and services must be used. In international financial practice, methodologies for determining the sustainability of public finances have been developed, which are applicable for determining the sustainability of public procurement. The application of the given methodology allowed the development of certain conclusions regarding the sustainability of public procurement in the Republic of Moldova. In the short term, this can be seen as normal. But in the conditions of the current economic and financial crisis, the long-term prospects remain uncertain. Furthermore, the high level of corruption remains a threat to the sustainability of public procurement in the Republic of Moldova, necessitating the continuation of activities to maintain transparency in public procurement as well as those related to corruption prevention.

Keywords: *public procurements, sustainability of public procurement, sustainability criteria.*

JEL classification: *E61, H62, H63*

Introduction

Public procurement represents the complex of activities and procedures related to obtaining work, goods, and services by national, regional, or local public authorities. Public procurement is the acquisition, definitive or temporary, of some products, works, or services by a legal person defined as a contracting authority through the awarding of a public procurement contract. (*Achiziții…*, n.d.)

The expert Angela Boguș states: "The efficient use of public money presupposes, first of all, the rationalization of public expenditure. Since the largest sector of government expenditure is public procurement, there is a major interest in it at the international level." According to the estimates of the World Bank, public procurement represents about 15-20% of the GDP of developing countries and about a third of national government budgets. At the same time, procurement has an important share in world trade—about 1.3 billion Euro annually." (Bogus, 2019)

In this context, experts from Expert-Group say: "Success in public procurement is mostly determined by the activity of the contracting authorities, the Public Procurement Agency and the institutions that exercise administrative control over the contracting authorities, legal bodies and the Court of Accounts." (Budianschi et al., 2014)

During the global pandemic COVID-19, the Republic of Moldova was affected by an economic and financial cataclysm called the pandemic crisis. From February 2022, this crisis entered a

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new phase under the influence of the energy crisis and the armed conflict between Russia and Ukraine.

Under these conditions, the problem of efficiency and sustainability of public finances in the Republic of Moldova, including public procurement, has become an actual issue. The given article tends to present an analytical picture of public procurement under the aspect of sustainability criteria.

Description of the Problem

The sustainability of public procurement represents the ability of the country's public authorities to honor their related contractual obligations without jeopardizing the state's solvency. Its appreciation is crucially important not only from the point of view of fulfilling the financial obligations assumed by public bodies (institutions) as a reputational image, but also from the perspective of the fact that through public procurement the function of redistributing public finances is realized, as well as from ensuring the functionality of the state. That is why, now, when we live in conditions of economic and financial crisis, it is vitally important that the public procurement mechanisms work efficiently, which is determined by the techniques described below.

Methodology and Data

For the preparation of this work, the works of researchers from different countries on the sustainability of public procurement were studied. Then the legal basis of the Republic of Moldova related to public procurement was examined, as well as the statistical data of the Agency for Public Procurement and other public institutions. In the same way, the opinions of the experts from the Republic of Moldova on the issues related to public procurement were examined.

Results

Based on the study of the specialized literature, the General Model of the Evaluation of the Sustainability of Public Procurement was developed (Figure 1).

Figure 1 - The General Model of the Evaluation of the Sustainability of Public Procurement

Source: *developed by the author*

This model, from the start, demonstrates that the sustainability of public procurement is dependent on three basic blocks of variables determined by the budget policy, the fiscal policy, and the state's debt policy.
According European Commission, „the sustainability public finances also referred to as fiscal sustainability, is the ability of a government to sustain its current spending, tax and other

policies in the long run without threatening the government's solvency or without defaulting on some of the government's liabilities or promised expenditures". (European Commission)
The Medium-Term Budgetary Framework methodology in the Republic of Moldova expresses budgetary sustainability by covering current expenses from revenues (except for grants). (*Cadrul...*, n.d.)
Some experts propose the following indicators for expressing budgetary sustainability (Veliev, 2011), (Luchian, Țepordei, 2016):

- *The minimum budget expenditures [CBm]* – all the means provided in the budget for the financing of the measures intended to ensure the functionality of the state;
- *Own budget revenues [VBp];*
- *Regulatory budget revenues [VBr];*
- *Budgetary debt [DB].*

The treatment of the indicators through the lens of sustainability is as follows:

- *Absolute sustainability: CBm < [VBp + VBr];*
- *Normal sustainability: CBm = [VBp + VBr];*
- *Unsustainable state: CBm > [VBp + VBr – DB];*
- *Absolute unsustainable condition: CBm > [VBp + VBr].*

On the other hand, the authors Luchian and Tepordei mention the concept of the researcher Stoian, who offered his own model of fiscal policy sustainability (Luchian, Țepordei, 2016):

$$\frac{db}{ds} = g + h - t + (r - \theta) \cdot b = d + (r - \theta) \cdot b \qquad (1)$$

where:

b - share of public debt in GDP;
g - share of government spending on goods and services in GDP;
h - share of government transfers in GDP;
t - share of tax revenues in GDP;
r - the real interest rate at which the public loans were contracted;
θ - real rate of economic growth;
d - share in GDP of the primary balance;
s - time variable

From the above, it appears that the sustainability of public procurement can be considered as an economic function determined by the following blocks of components:

1. The volume and structure of public procurement dynamics;
2. The country's economic development as expressed by GDP dynamics;
3. The dynamics of public procurement within the total volume of public expenditures;
4. The state's capacity to mobilize ordinary revenues as expressed by the total volume of public revenues dynamics;
5. The availability of loan sources to cover the budget deficit and the dynamics of public debt.

The dynamics of the annual volume of public procurement in the Republic of Moldova is presented in Figure 2.

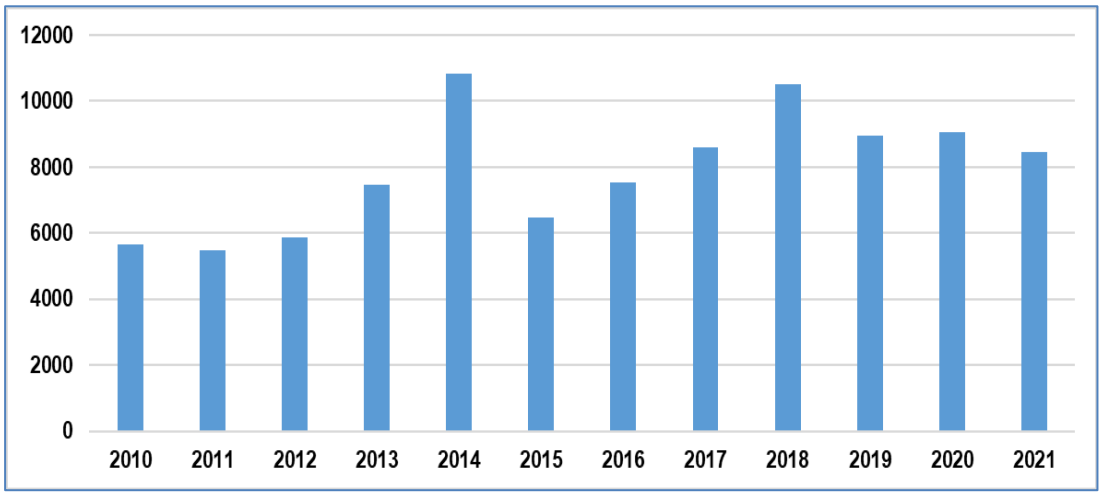


Figure 2 - Dynamics of the annual volume of public procurement in the Republic of Moldova (millions of MDL)

Source: *(Rapoartele..., n.d.)*

During the analyzed period, the total volume of public procurement in the Republic of Moldova was 94839 million MDL, and the average annual volume was 7903 million MDL. The maximum level of public procurement was recorded in 2014 at 10839 million MDL.
The basic indicators of the activity of the Public Procurement Agency (PPA) are presented in Table 1.
From the data in the table, it appears that during the analyzed period there was a general tendency to compress PPA activity.
This mostly refers to the number of procedures, which in 2021 was 3485, decreasing by 870 units.

Table 1

PPA's activity indicators

Indicator	2019	2020	2021
Number of procedures	5179	4355	3485
Number of contracts	13800	12416	13450
Amount of purchases (million MDL)	8939,9	9040,6	8445,5

Source: (*Rapoartele...,* n.d.)

In 2021, contracting authorities concluded 13450 additional contracts and agreements, 1034 more than in the same period of 2020.
In the period of 2021, the contracting authorities made public procurements in the total amount of 8445.5 million MDL, which is 595.2 million MDL less than in 2020 and represents a decrease of 6.6%.
The breakdown of public procurement by type of procedure is presented in Figure 3.

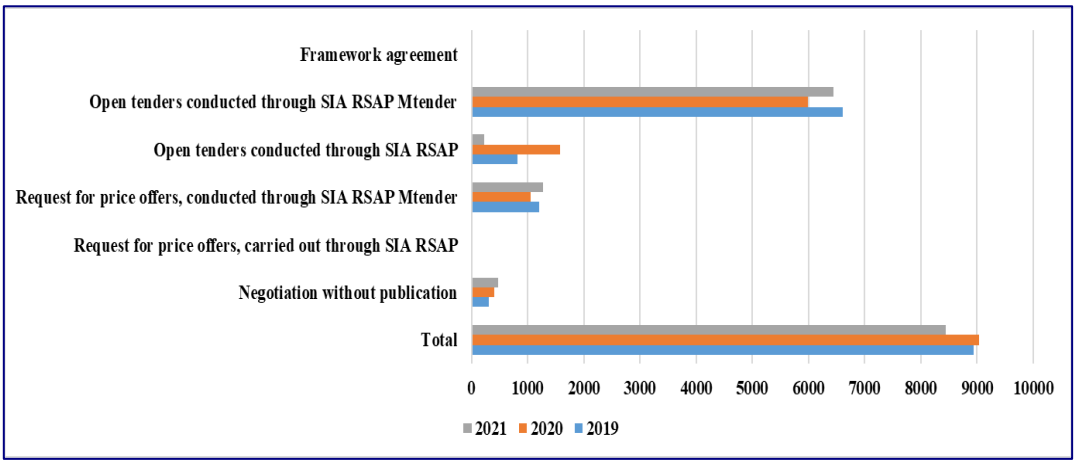


Figure 3 - Distribution of public procurement by type of procedures (million MDL)

Source: (*Rapoartele...,* n.d.)

In 2021, the largest share (76.4%) was held by the purchases made through the open auctions held through SIA RSAP Mtender in the amount of 6449.9 million MDL, which increased compared to 2020 by 456.4 million MDL (or by 7.6%).

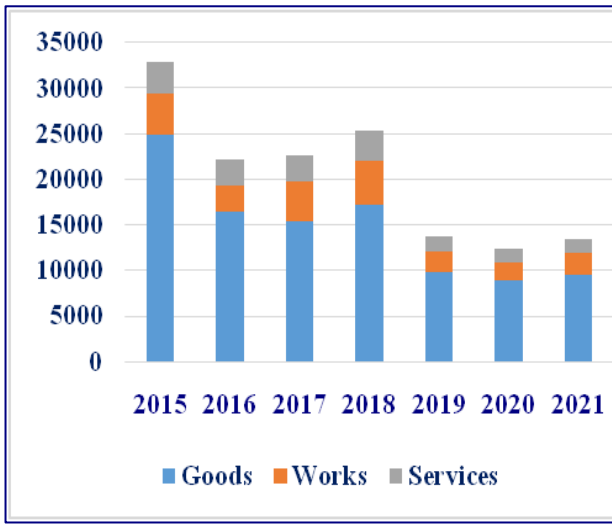
Purchases made through requests for price offers, carried out through SIA RSAP Mtender had a share of 15.1% in the amount of 1278.6 million MDL, increasing compared to 2020 by 221.3 million MDL (or by 20.9%).

The Automated Information System "State Register of Public Procurements" Mtender (SIA RSAP Mtender) is an online electronic procurement system with multiple platforms, consisting of a web portal and a Central Data Unit of open type data (Open Data) and a network of several accredited private sector platforms to support e-auctions for public and private sector clients. The e-procurement platform is a public procurement e-commerce platform accredited to connect with MTender and provides digital e-auction services to both public sector clients and private sector buyers. Each MTender procurement platform provides a support service for buyers and economic operators registered on this platform to access MTender's electronic services.

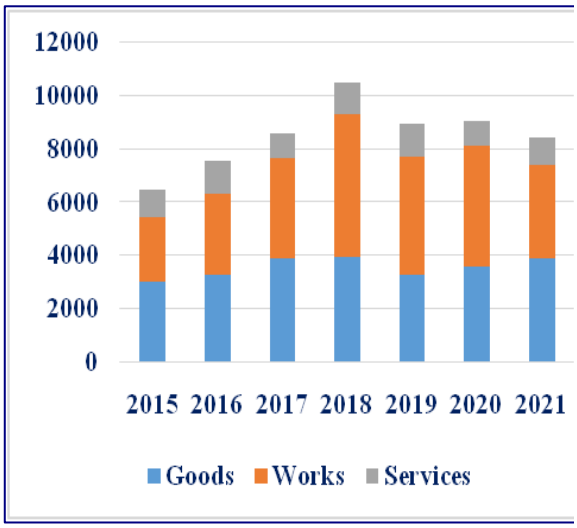
The information regarding the distribution of public procurements according to the type of procurement object (goods/works/services) is presented in Figure 4.

In 2021, 70.9% of the total number of public procurement contracts related to the procurement of goods was in the amount of 9,538 units, which is 658 contracts more than in 2020. In terms of importance, the next position is occupied by works (17.5%) with 2352 contracts, an increase compared to the previous year with 377 units.

In terms of purchases, the majority (45.8%) is related to the procurement of goods in the amount of 3866.7 million lei, which increased by 316.4 million lei (or 8.9%) compared to 2021, and the purchases of works in the amount of 3516.1 million lei, which decreased by 1033.6 million lei (or 22.7%).



Number of contracts



Amount of purchases (million MDL)

Figure 4 - Distribution of public procurements according to the type of procurement object

Source: (*Rapoartele...,* n.d.)

Apart from the above, there is another important indicator – the share of the volume of public procurement in GDP, the dynamics of which are presented in Figure 5.

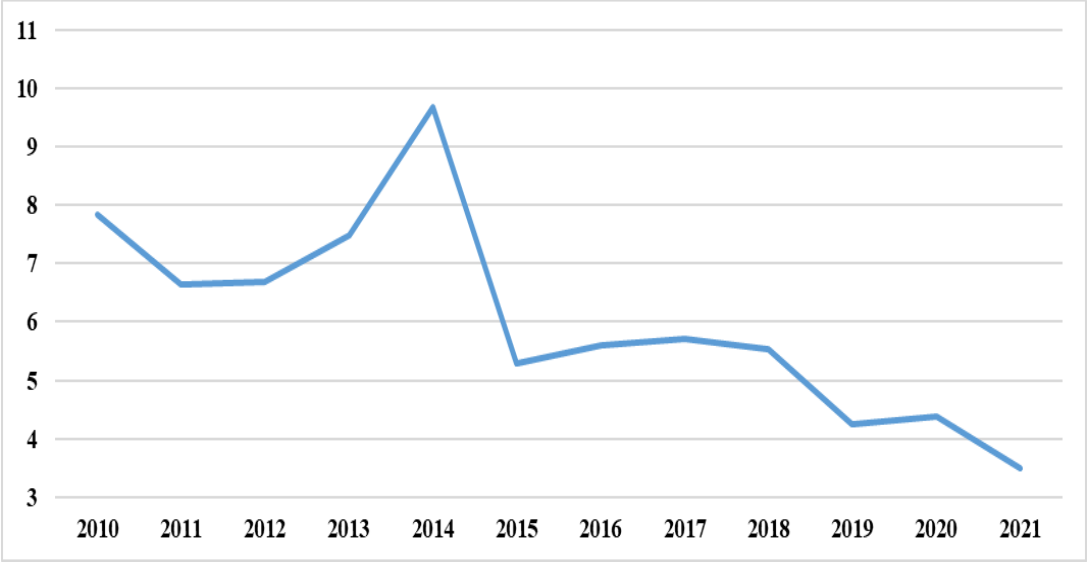


Figure 5 - Distribution of public procurements according to the type of procurement object (%)

Source: (*Rapoartele...,* n.d.), (*Moldova...*, n.d.)

In the period 2014–2021, this indicator had a general downward trend, ranging from 9.7% to 3.5%.

The increase in the GDP level and the decrease in the volume of public purchases contributed to this.

In essence, this is the first argument for the normal sustainability of public procurement in the Republic of Moldova.

Table 2 shows the dynamics of the basic indicators applied for the analysis of the sustainability of public procurement.

For the analysis of the sustainability of public procurement, we propose a set of indicators, whose annual deviations are presented in Table 3.
Based on the results of the analysis carried out, we can talk about the normal sustainability of public procurement in the short term.

Table 2

Dynamics of basic indicators (million MDL)

Indicator	2015	2016	2017	2018	2019	2020	2021
Gross domestic product (GDP)	145754	160815	178881	192509	206256	199734	241871
Public procurements	6462	7526	8605	10509	8940	9041	8446
NPB's expenditures	46394	48463	54522	59577	65976	73270	82014
NPB's revenues	43661	45954	53378	57965	62949	62650	77373
NPB's deficit	1946	2733	1145	1612	3026	10620	4641
State debt	33509	50786	51660	52013	52494	67821	77753

Source: (*Rapoartele...,* n.d.), (*Moldova...*, n.d.)

Table 3

Dynamics of annual deviations of basic indicators (%)

Indicator	2015	2016	2017	2018	2019	2020	2021	Annual average
GDP	+11,7	+9,2	+11,2	+7,6	+7,1	-3,2	+21,1	+9,3
Public procurements	-40,4	+16,5	+14,3	+22,1	-14,9	+1,1	-6,6	-1,1
NPB's expenditures	+4,5	+4,5	+12,5	+9,3	+10,7	+11,1	+11,9	+9,2
NPB's revenues	+2,9	+5,3	+16,2	+8,6	+8,6	-0,5	+23,5	+9,2
NPB's deficit	+11,1	+40,4	-54,4	+40,8	+87,7	+250,9	-56,3	+45,8
State debt	+22,0	+51,6	+1,7	+0,7	+0,9	+29,2	+14,6	+17,2

Source: (*Rapoartele...,* n.d.), (*Moldova...*, n.d.)

The arguments are the following:

- The average annual growth rate of public procurement (-1.1%) is relatively low compared to the average annual dynamics of NPB's expenditures (9.3%);
- The share of public procurement in the NPB's total expenses is continuously decreasing (from 15.8% in 2015 to 10.3% in 2021);
- NPB's revenues are growing, with the average annual increase (9.2%) being approximately the same as compared to NPB's expenses.

But in the long term, the sustainability of public procurement is negatively influenced by certain factors:

- The rapid growth, with an average annual rate of 45.8%, of the NPB's deficit threatens the state's ability to meet the financial commitments assumed for public procurement.
- As a consequence of the previous factor, there is a rapid growth of the state debt, with an average annual rate of 17.2%, which will lead to the essential increase in the expenses of servicing the respective debt in the future.

The long-term sustainability of public procurement is also compromised by the current processes in the field of public finances. According to the recent corrections to the State Budget for 2022 recently examined in the parliament, the negative difference between revenues and expenses can reach the level of 17.3 billion lei (compared to 4.7 billion lei in 2021), which inevitably will lead to the corresponding increase in the state debt. (Popescu, 2022)

In this context, the central authorities of the Republic of Moldova have high hopes for obtaining financial assistance from development partners.

As Marina Soloviova, program director, Expert-Group states: "Starting with loans from the IMF, in the amount of 144 million. There was also assistance from the EU, in the form of a grant for budget support in the amount of 75 million, macro-financial assistance in the form of grants and loans from the International Development Association and other sources. In total, from April to August, Moldova received an estimated 327 million dollars." (*Volumul...*, n.d.)

Also, a substantial threat to the sustainability of public procurement remains the high level of corruption.

In 2016, the estimated cost of corruption in public procurement in the Republic of Moldova amounted to 1.5 billion lei. (Straton, 2017)

After carrying out an analysis in 2018, the experts from Expert-Group declared: "Public procurement is an area extremely exposed to the risks of corruption. Corruption risks to proliferating in this field thanks to the huge sums allocated by the state for the procurement of goods, services, and work. At the international level, countries allocate between 15% and 30% of GDP for public procurement. In the Republic of Moldova, the given amount is slightly lower, at approximately 10-12%". (*Combaterea…*, n.d.)

With the approval of Law No. 131 of July 3, 2015 on public procurement in the Republic of Moldova, multiple measures were taken to make the processes related to public procurement more efficient and transparent.

The provisions of the RM-EU Association Agreement, the measures for the implementation of the Agreement on public procurement of the World Trade Organization, the Development Strategy of the public procurement system for the years 2016-2020 and the Action Plan regarding its implementation also contributed to this.

Every year, the National Anticorruption Center carries out measures to prevent corruption in the field of public procurement.

Thus, in 2021, a strategic analysis was carried out regarding the threats of corruption in the purchase and supply of electricity in the context of the liberalization of the energy market in the Republic of Moldova. In this context, it was recommended to "research through the prism of indicators regarding the purchase, transportation, and distribution of electricity, which develop the risk of increasing the tariff when providing it to household consumers, as well as the aspects that generate the risk of admitting acts of corruption at the level of non-household consumers and among public authorities at the subsequent launch of public procurement procedures." (*Raport...*, n.d.)

In the same way, the strategic analysis regarding public procurement was carried out. In this context, "several issues emerged, including: the lack of transparency criteria at the stage of public procurement planning; problems at the stage of drafting the award documentation; not ensuring the efficiency of the purchase (luxury cars are purchased); the passivity of economic operators; division into lots; unmotivated withdrawal of appeals; the concentration of certain types of acquisitions around a narrow circle of economic agents; the division of acquisitions for the purpose of applying low value acquisition procedures, a fact that does not ensure transparency in this process and promotes the personal interests of the heads of the contracting authorities; the legal framework of public procurement). (*Raport...*, n.d.)

Conclusions

In international financial practice, methodologies for determining the sustainability of public finances have been developed, which are applicable for determining the sustainability of public procurement. The application of the given methodology allowed the development of certain conclusions regarding the sustainability of public procurement in the Republic of Moldova. In the short-term perspective, the sustainability of public procurement can be considered normal. At the same time, the current economic and financial crisis makes long-term prospects uncertain. In this context, the ability of the central authorities to attract additional financing on the domestic market and from external donors is important. The fight against corruption, the improvement and exploitation of new technologies for the consolidation of governance, as well as ensuring the process of transparency in the use of public money within the national public procurement system, remain important tasks for the public authorities of the Republic of Moldova.

Future Directions

Now, the situation in the public finances of the Republic of Moldova is deteriorating against the background of the economic and financial crisis. In addition, the worsening of the situation in the energy field may require the reorientation of the basic vector of public procurement. All this can influence the state of sustainability of public finances in the Republic of Moldova, including in the field of public procurement. These processes can inevitably require the continuation of research related to the sustainability of public procurement in the Republic of Moldova.

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MONEY LAUNDERING, PUBLIC ACCOUNTING AND AUDITING IN ALBANIA

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Abstract:

The process of money laundering is used to legalize the assets or money received from illegal activities. The primary goal of this research is to analyze the money laundering process in Albania related to the public accounting and audit process. The research design of the paper is only applied as descriptive because it observes the direct influence of money laundering and audit process in the whole economy. Secondary data collection is mainly used to analyze and understand the area of the research to continue with further discussion and withdraw conclusions. The sources used for gathering all the secondary data used in this research study are various published information and related legal acts published by the public institutions in Albania.

At the conclusion session the authors intend to suggest solutions based on the results of the analysis performed of this study.

Keywords: *money laundering, public accounting, auditing, public institution, economy.*

JEL Classification: A1, G18, H1

Introduction

In Albania, the process of preventing money laundering was established as a necessity of the time for the first time in May 2000, when the Assembly of Albania adopted Law No. 8610 dated 17.05.2000 "On the prevention of money laundering," with the main purpose of preventing money laundering derived from criminal activity, as well as the fight against financial crime.

This law applied to natural or legal persons such as: banks and entities licensed by the Bank of Albania to carry out banking and financial activities; foreign exchange offices; scholarships; investment funds; insurance and/or reinsurance companies and other legal entities authorized by the Insurance Supervision Commission to carry out insurance and/or reinsurance activities.

The authors will describe the relationship between accounting, auditing, and money laundering as a critical component of the Albanian economy.

Description of the Problem

Over the last decades, the process of money laundering in Albania has been a process of critical importance for the country. In August 2001, the Ministry of Finance established the

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Coordination Directorate of the Fight Against Money Laundering (CDFAML), and in July 2003, CDFAML was admitted as a full member of the Egmont Group's Financial Intelligence Units.

The Coordination Directorate of the Fight Against Money Laundering was promoted to the General Directorate for the Prevention of Money Laundering (DPPPP) in the Ministry of Finance in August 2005.

In November 2006, laws no. 9641, dated 20.11.2006, "On the Ratification of the Convention of the Council of Europe "On the Prevention of Terrorism" and no. 9646, dated 27.11.2006, "On the Cleaning, Search, Seizure, and Confiscation of the Proceeds of Crime and the Financing of Terrorism" were passed.

With the signing of the Memorandum of Understanding between the General Prosecutor's Office, the Ministry of the Interior, the Ministry of Finance, and the Intelligence Service in the second half of 2007, the Joint Unit for the Investigation of Corruption and Economic Crime, led by the Prosecutor's Office, was established to coordinate the work of institutions for legal strengthening, conducting investigations for the criminal offense of corruption and economic crime.

In this context, the Anti-Financial Crime Directorate was established in the Department for the Investigation of Crimes in June 2007, consisting of three sectors, including the Anti-Money Laundering Sector, with the goal of strengthening the preventive system and reducing opportunities to use the financial system for the purpose of money laundering or terrorism financing.

In addition, as part of the reorganization of the tax administration in the Republic of Albania, based on law no. 9920, dated 19.5.2008 for tax procedures in the Republic of Albania, the General Directorate of Taxes (Directorate of Anticorruption) established the Directorate of Internal Investigation in order to detect and prevent corrupt behavior by tax employees.

These structures, created firstly to prevent and fight corruption, were later strengthened by new legal acts regarding their work effectiveness.

It is also worth noting that based on Law no. 9049, 10.04.2003 "On the declaration and control of assets and financial obligations of elected officials and some public servants", Law no. 9367, 07.04.2005 "On the prevention of conflict of interests in the exercise of public functions", Law no. 9917 19.05.2008 "On the prevention of money laundering and financing of terrorism", the Memorandum of Cooperation was signed between the General Directorate for the Prevention of Money Laundering (DPPPP) and the High Inspectorate of Assets Declaration and Control (ILDKP), with the common goal of strengthening the legal state, the fight against corruption, economic crime, the prevention of money laundering and conflicts of interest that affect the proper functioning of the public administration, as well as the protection of the interests of the state.

A simplified cooperation procedure based on the principle of reciprocity between parties was aimed through this instrument. This was made possible thanks to the concrete engagement in collecting and analyzing information that was exchanged for the concealment of private property interests, corruption, economic crime, money laundering or other related criminal activities.

The exchange of mutual information regarding the declaring subjects and Politically Exposed Persons (PEP) and the corruption cases identified by the parties were used in accordance with the provisions of the Albanian legislation on confidentiality, where the DPPPP notifies the ILDKP of the cases referred to the Prosecutor and the Police that have deal with the PEP and was committed to providing evidence within the specified time limits for the cases when such a thing was requested by the ILDKP.

Coordination was made possible through the contact persons responsible for the concrete implementation of the Cooperation Memorandum and DPPPP keeps detailed statistical data for all cases of information exchange with ILDKP.

As an independent institution and one of the main responsible institutions in the fight against corruption, the High Inspectorate for the Declaration and Control of Assets carried out its institutional activity in accordance with Law No. 9049, dated 10.4.2003, "On the Declaration and Control of Assets, Liabilities, and Finances of Elected Officials and Some Public Servants" (published in the Official Gazette no. 31 of 2003).

The High Inspectorate of Assets Declaration and Control based on Article 41, is the Central Authority Responsible for the implementation of the amended Laws by no. 9367, dt. 7.4.2005, by Law no. 9475, dt. 9.2.2006 and by Law no. 9529, dated 11.5.2006 (published in the Official Gazette no. 31 of 2005) and with Law no. 9367, dated 7.4.2005 "On the Prevention of Conflict of Interests in the Exercise of Public Functions", amended by Law no. 9475, dt.9.2.2006 and with the law no. 9529, dt. 11.5.2006 (published in the Official Gazette no. 31, dated May 11, 2005).

These two laws established the rules for declaring and controlling wealth, as well as the legitimacy of the sources of its creation and the financial obligations of elected officials, public servants, their families, and those related to them. These laws also ensure impartial, transparent decision-making in the best interests of the public and its trust in public institutions by preventing a conflict between public and private interests of an official in the performance of public functions.

The twinning project with the German Federal Criminal Office (BKA) altogether with the support of the EU Delegation in Tirana, began in September 2007, with the goal of strengthening the capacities of the DPPPP and a number of other institutions involved in preventing and combating the laundering of criminal proceeds and financing of terrorism.

The Albanian Parliament approved Law No. 9917, dated 19.05.2008, "On the Prevention of Money Laundering and Terrorist Financing," which went into effect in September of that year. The goal of this law was to align Albanian legislation with the FATF's international recommendations.

According to Law no. 9917, dated 19.5.2008, "On the prevention of money laundering and the financing of terrorism," and Law no. 9662, dated 18.12.2006, "On banks in the Republic of Albania," and Law no. 157/ 2013, dated 10.10.2013, "On measures against the financing of terrorism," amended, the Bank of Albania plays an important role in the fight against money laundering and financing of terrorism.

As the supervisory authority over the activities of the entities licensed by it, the Bank of Albania evaluates the applicability of legal acts and immediately reports to the responsible authority any suspicion, information, or data related to money laundering or terrorist financing for the activities under their jurisdiction.

According to the Bank of Albania regulation "On the prevention of money laundering and financing of terrorism," approved by decision No. 44, dated 10.06.2009, any natural or legal person who establishes business relations with clients, drafts internal policies, instructions, or procedures for acceptance, identification, registration, monitoring, risk management, and reporting of customer transactions.

The Bank of Albania assesses the sufficiency of the entity's internal control programs and system, in order to prevent money laundering and terrorist financing and for all violations identified, which can be classified as administrative offenses based on Article 27 of the law "On the prevention of money laundering", informs the responsible authority by making available the complete documentation related to the finding of the violation.

The Bank of Albania may request from the subject's access to and making available any type of information and documents related to the compliance of the subjects' obligations pursuant to the law on the prevention of money laundering.

●In September 2009, the twinning project with the Federal Criminal Office of Germany ended.

●In October 2009, with Decision no. 1077, dated 27.10.2009, of the Council of Ministers, the National Strategic Document "On the investigation of financial crime" was approved, in the drafting of which DPPPP had a leading role.

●In November 2010, the fourth round of the country evaluation process by the Moneyval Committee of the Council of Europe began, in which DPPPP has played a prominent coordinating role with all local institutions.

●In April 2011, the KiE MONEYVAL Committee approved the 4th round report for Albania, which reflects the growing assessment of FATF Recommendation 26 and is directly related to the activity of DPPPP as a Financial Intelligence Unit.

●In May 2011, the project of twinning with the Spanish authorities began in order to strengthen the institutional capacities of the institutions involved in the prevention and attack of the laundering of the proceeds of criminal offenses and the financing of terrorism, in which the DPPPP was a beneficiary institution. This project was made possible in the framework of the generous assistance of the EU Delegation in Tirana.

●The document "On the national risk assessment of money laundering and terrorist financing" was completed and presented to the Fight Against Money Laundering Coordination Committee in October 2012.

●In May 2013, the twinning project with the Spanish authorities was completed.

●In October 2013, the Albanian Parliament adopted Law No. 157/2013 "On measures against the financing of terrorism", which ensured a better alignment with the international recommendations of the FATF in order to implement the resolutions of the Security Council of Nations United.

●In May 2015, Albania completed the process of implementing FATF recommendations and was removed from the public list of countries with deficiencies in the field of money laundering and terrorist financing. DPPPP has played an active role in fulfilling the recommendations made in this process and coordinating the work with the institutions involved (Bank of Albania, Financial Supervision Authority, General Prosecutor's Office, Ministry of Justice);

●In June 2015, the review of the national risk assessment for money laundering and terrorist financing was completed, which included the contribution of state institutions and the private sector.

●In September 2015, the Moneyval Committee of KiE reviewed the progress made by our country in terms of the recommendations of the IV evaluation round and based on the measures taken by the authorities, decided to terminate the enhanced supervision procedure;

●In November 2016, by Decision of the Council of Ministers, the announcement of the list of persons as terrorists was approved by internal procedure.

●In April 2017, the Albanian Parliament, within the framework of the justice reform, approved law no. 44/2017 "On some changes and additions to the law no. 9917/2008, On the Prevention of Money Laundering and the Financing of Terrorism"

●In April 2017, based on the Prime Minister's order no. 46 "On the approval of the structure and organization of the General Directorate for the Prevention of Money Laundering" and in order to strengthen the capacities of the institution, an increase of 11 employees was realized in the staff of DPPPP ;

●In October 2017, within the framework of the process for the 5th round of evaluation of Albania, the evaluation experts of the Moneyval Committee of the Council of Europe visited the country;

●In July 2018, the Moneyval Committee approved the report of the 5th round of Albania's assessment of the implementation of FATF's international recommendations;

●In September 2018, the Committee for Coordinating the Fight Against Money Laundering (KBLKPP), under the direction of the Prime Minister, approved the action plan within the Moneyval report, setting deadlines and responsible institutions for each measure.

●In October 2018, work began on the drafting of changes in the legislation for the prevention of money laundering and terrorist financing.

Compliance with the subjects of Law No. 9917 of 19.05.2008 "On the Prevention of Money Laundering and the Financing of Terrorism," as amended, as well as the further consolidation of the preservation of information administration, are also one of the main directions of the DPPPP's work, the realization of which will continue to rely on the experience created for this purpose at the national and international levels.

The basic premise for ensuring that the DPPPP fulfills its obligations in collecting, analyzing, and disseminating information on money laundering and terrorist financing issues in competent authorities will continue to be the harmonization of legislation with the Acquis Communautaire and the consolidation of cooperation with partner financial intelligence units.

The General Directorate of Prevention of Money Laundering (DPPPP) is now well organized in carrying out its mission of protecting the country's interests from financial crime and terrorist financing, thereby contributing to the system's stability, integrity, growth, and sustainability. Through regulatory and financial intelligence programs, the financial sector in Albania and the economy in general can be protected by detecting and suppressing criminal activity.

According to amended Prime Minister's Order No. 111 dated 30.08.2019, "On the approval of the structure and organization of the General Directorate for the Prevention of Money Laundering," DPPPP consists of the Legal and Foreign Relations Directorate, the Analysis Directorate Strategic and Suspicious Transactions, and the Compliance Analysis and Information Technology Directorate.

The structural changes, which are accompanied by an increase in staff to 45, aim to ensure the effective implementation of DPPPP's obligations in fulfilling the Albanian government's strategic objectives as well as international recommendations in the field of preventing money laundering, financing of terrorism, and financing of weapons of mass destruction.

Methodology and Data

According to Martin Navias (2019), money laundering can happen through 3 methods:

1.Infiltration- the true ownership of the money is hidden

2.Masking- money gets into the system through complicated procedures to hide their true ownership.

3.Integration- dirty money is presented as legal wealth.

UNODC in 2009 has calculated that 2.7% of the economy is made of dirty money. In other words, 280 million to 700 million euros are laundered every year in Albania. To prevent this from happening, the government has approved “On the prevention of money laundering and financing of terrorism" law.

Results

Table 1

Report of suspicious activities by category of reporting entities

Reporting entity	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Bank	748	142	173	163	329	352	420	822	585	619	686	563	651	703	725
Transfer company	0	0	0	3	7	73	45	74	79	209	165	247	319	315	290
General Directorate of Customs	38	5	0	15	20	30	36	48	45	47	46	49	43	44	33
General Directorate of Taxation	2	2	1	1	0	33	10	50	7	3	5	10	43	44	33
Central Real Estate Registration Offices (ZQRPP)	1	0	0	22	8	29	20	64	210	134	83	164	33	0	16
Notary		0	1	6	17	19	15	122	303	205	254	469	335	321	482
Foreign exchange office						14	8	16	17	14	20	7	6	4	4
Auditing company						0	1	0	0	1	0	0	0	0	0
Accounting expert		0	0	0	1	0	1	4	1	0	0	0	0	0	0
Financial institutions not Bank				6		0	0	2	0	2	10	2	0	9	17
Lawyer						1	1	2	0	0	0	0	0	0	0
Leasing financial companies						1	0	4	7	15	5	2	0	0	1
Construction company						0	0	4	1	0	5	0	5	2	2
Tool trading company motorsports						0	0	9	36	35	101	6	10	0	0
Travel agency						0	0	0	1	0	0	0	0	0	0
Credit savings company						0	0	0	1	0	0	0	0	0	0
Forwarding company						0	0	0	2	0	0	0	0	0	0
Payment electronic company						0	0	0	19	6	2	6	0	0	3
Others		3	11	18	6	4	1	9	5	2	2	0	10	1	2
Total	**789**	**152**	**186**	**234**	**388**	**556**	**558**	**1.230**	**1.319**	**1.292**	**1.384**	**1525**	**1455**	**1443**	**1608**

Source: Authors' calculation

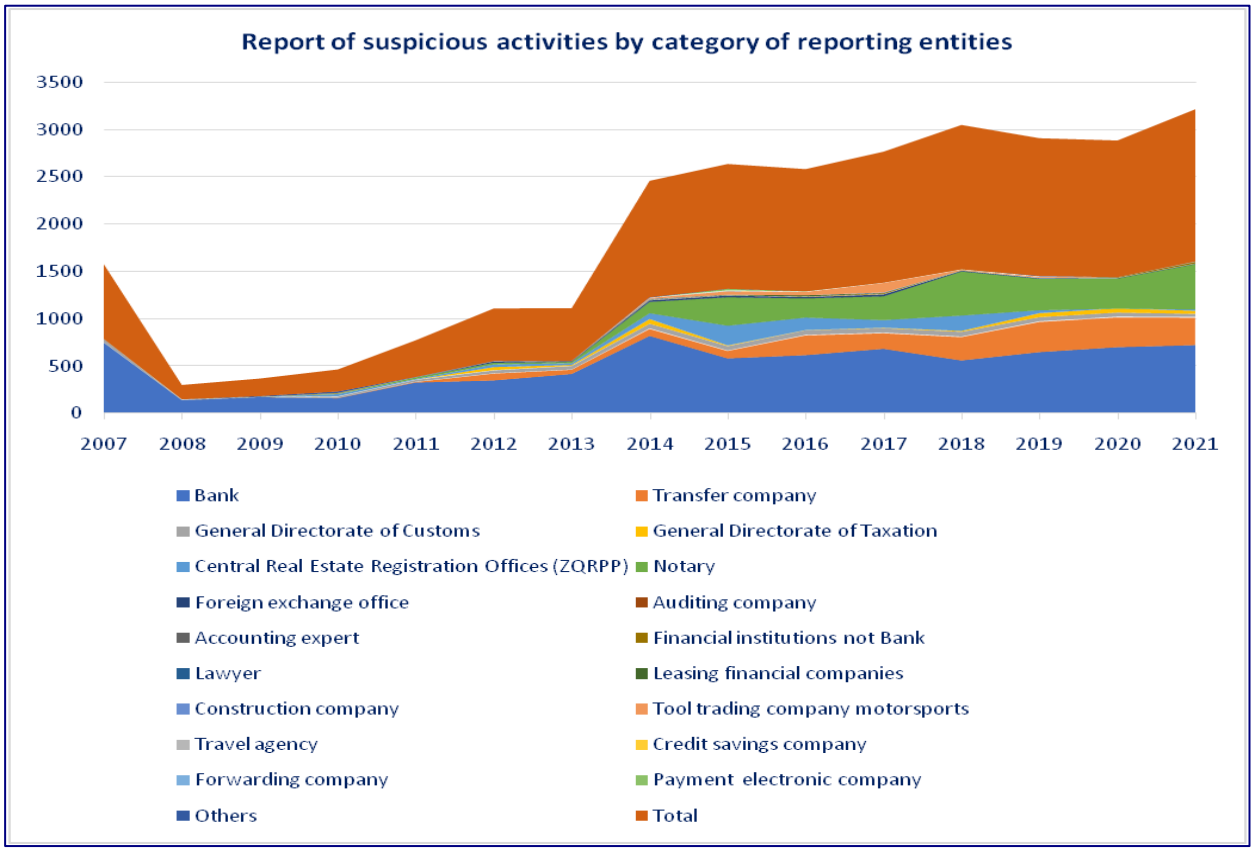

Figure 1: Report of suspicious activities by category of reporting entities

Source: Authors' calculation

Conclusion

Due to corruption, the presence of organized crime networks and gaps in legislation and supervision, Albania remains vulnerable to money laundering. Even after the updated of the list in March 2022, regarding the fight against money laundering, Albania is still on the gray list, or as it is called differently in the language of experts, it is among the countries with increased monitoring. It is also worth noting that these are key elements of economic governance in Albania.

This publication will serve the authors to expand the field of research regarding money laundering in Albania by comparing it with countries in the region and the EU. The audit process and money laundering have closely related each other and with the economic reforms undertaken by governments. In the future, it will be aimed by the authors to analyze the updated procedures in the field of public accounting, auditing, and money laundering.

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SHARE OF THE WORK IN THE NET ADDED VALUE PRODUCED IN THE NATIONAL ECONOMY

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Abstract:

The paper addresses the concept of net added value, distribution and redistribution of net added value in the national economy. The dimensions of the concepts and the determined behaviors are closely related to the evolution of the national economy, but also to the state's power of intervention through income policies. The purpose of the paper is to present an analysis of the factors that determine the share of work in the net added value produced by the economy. In conclusion, the paper highlights the impact of the fiscal solutions adopted in Romania and will be debated how the net added value produced in the economy can be fairly distributed between, employees and the public budget, based on the criteria of equity, efficiency and sustainability.

Keywords: *net added value, distribution and redistribution, income policies, fiscal policies, work*

JEL classification: E64, J30, D33

Introduction

This research paper is based on the own research of the draft year „A model of analysis of the distribution of the net added value produced in the national economy between financial capital, salary and the public budget"

The dynamics of capital accumulation, the concentration of wealth and implicitly of power in an overwhelming share in the hands of a few people, the increase in inequalities require the verification and re-verification of the fair distribution of income among people. The dimensions of the concept and the determined behaviors are closely related to the evolution of the national economy, to the power of intervention of the state. An important chapter of the project is the analysis of the factors that determine the share of labour in the net added value produced by the economy, in the case of Romania, as an EU member state.

The main objective of the large project aims to score a topical, renewed theoretical framework, bearing in mind that although the concepts and problems addressed are interdependent, the logical theoretical approach of each one involves distinct considerations, an unbiased approach anchored in the analysis of empirical data ultimately lead to a analysis model of the distribution of the net added value produced in the national economy between financial capital, salary and the public budget without creating confusion.

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A suite of intermediate objectives competed for the achievement of this objective:

• Contextual and conceptual framing of the net added value produced in the economy and the need to distribute/redistribute the net added value based on criteria of equity, efficiency, sustainability

- the result: a conceptual clarification based on the literature review of recent years

• Checking how the dynamics of capital accumulation, the concentration of wealth and implicitly power in an overwhelming weight in the hands of a few people has led to the growth of inequalities and, as a consequence, requires the re-examination of the models of fair redistribution of income between people

- the result: an analysis of the relevant criteria for fair distribution of the net added value produced in the economy, between the three actors – entrepreneur/shareholder, employee, state

• Identifying several possibilities for evaluating the impact of the distribution of the net added value produced in the economy on the labor market, based on the equity criterion

- the result: suggestions regarding the use of the proposed model for behavior change

• Considerable influences of the effects of the COVID-19 pandemic

- the result: marking the place and role of digital transformation processes in the national economy in the context outlined by the study.

Stages completed in the elaboration of the work:

• documentation (consulting specialized literature and identifying representative works from the studied area, as well as consulting reports, studies and analyzes aimed at institutions with direct attributions or related to the researched topic);

• research of empirical facts (study, interpretation, analysis of data and information from

economic reality);

• elaboration and presentation of intermediate papers in conferences, as is this one;

• elaboration, drafting of the final work.

For conference presentation, however, we focused on the general theoretical framework based on the models, methodologies, methods and tools studied in the literature review. This work paper will be limited to reviewing the concepts in the literature and exposing some elements of analysis.

This article reviews the long-term developments and knowledge in the distribution of income and wealth, but the focus is on developments in recent years. Key theoretical concepts, empirical analyses, suggested explanations for observed patterns, and implications for changes in government strategies and policies are discussed.

In the last two years probably a large number of opinions, reports, studies have been written that address the concepts included in our proposal, but we consider that the field is still very fertile and topical. Figure no. 1 represents a diagram of the conceptual framework approached in the investigative approach.

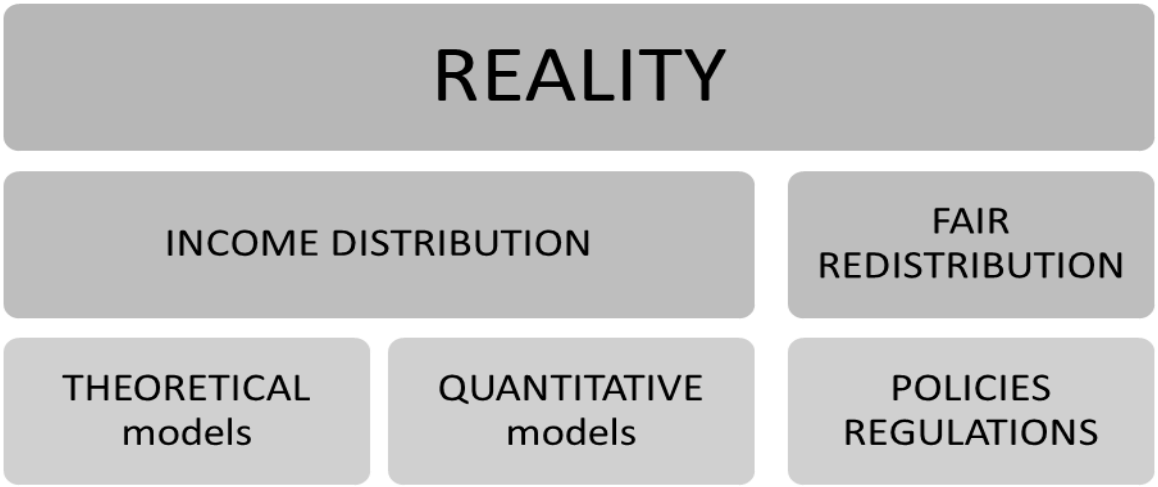

Figure 1Structure of the investigation

Source: author's conception

The figure shows the hierarchical grouping, from top to bottom, of the sets of information necessary and useful for research, starting from the observation of reality, without representing the relationships between the blocks, these being specific to time periods, authors, and sometimes public policy decision-makers through their interventions .

Literature reviews

For the purpose of the paper, we divided the main sources of documentation as presented in table no. 1

Table 1

Review of the literature on the distribution of Net Value Added produced in the economy

Theoretical models	Empirical Models	National Accounts System	Official reports and programs
Minsky, H. (2008)	**Minsky, H. (2008)**	**The National Accounts System** is the national record system that is the basis for the calculation of macroeconomic indicators of results, **Carp and all (2017), Anghelache și Sacală (2020)**	**ILO OECD FMI WBG**
Becker, G. &Posner, R. (2009)	**Piketty, (2013)**		
Piketty, (2013)	**Galbraith, J.K., (2015)**		
Galbraith, J.K., (2015)	**Georgescu, F. (2018)**		
Georgescu, F. (2018),	**Păuna B, Georgescu Fl. (2021)**		
Komlos (2019)	**Emilian Dobrescu, (2021)**		

Source: author's conception

"How to stabilize an unstable economy" Minsky, H. (2008), is an alternative analysis to Keynes through the system of two prices (for current production and for assets) and the lender of last resort. He disapproves of state aid because it encourages unemployment and supports inflation. Minsky used Kalecki's Equation for the proposed Reform Agenda, which refers to the Big State, a balanced budget, an employment strategy and tax reform.

Becker, G. and Posner, R. (2009) "Out of the ordinary sense - economic perspectives from marriage to terrorism" - an approach anchored in reality sustain:

- the remuneration of executive directors, especially in the USA, is correlated with the financial value of the company managed and the volume of managed resources

- Investing in education is beneficial

- The problem of income inequality should not be confused with the problem of poverty

Piketty, (2013) in "The capital in the 21st century" has the following ideas:

-Labour income inequality can be a race between education and technology and social groups, because if the supply of skills does not grow at the same pace as technology needs, then groups whose training has not progressed will have low wages and depreciated jobs, which increases inequalities in relation to work.

-Labour market regulations depend on the perceptions and norms of social justice of the respective society.

- Modern redistribution is a matter of fiscal progressivity.

He supports the exceptional tax on capital, and he considers inflation an imperfect substitute for the progressive capital tax. Piketty analyzes inequalities starting from distribution tables, which show the shares of different deciles and centiles in total income and total wealth, instead of using synthetic indicators, (Gini indicator, e.g.). Also, he analyzes the inequality of income from work and the inequality of capital holdings based on the data from 1910, respectively 1810 to 2010 and makes forecasts until 2100 or 2200.

Galbraith takes the concepts I (increase in inequality between 1980 – 2000), II (decline in inequality), III (measures inequality at the level of the globe) of income distribution between countries, from Milanovic, economist of the World Bank. He dealt with the distribution of expenditure in India, the Palma Ratio, the Lorenz Curve, the Gini coefficient, the Quantile Distribution, Theil's statistics - the intergroup method, the Augmented Kuznets Curve, the low interest rates and the low prices of raw materials that in his view caused free markets to abandon fairness.

An analysis and interpretation of Romanian statistics considering the ratio between capital and labor factors, an expression of the effectiveness-equity relationship, is offered by Georgescu (2018) starting from the general equilibrium theory and Pareto's optimum.

The author claims, arguing that, in Romania:

- the state favored capital and weakened the bargaining power of labour instead of the "flexibility of labour" the precariousness of labor and the consolidation of the power of capital took place;

- incomes from work are strongly polarized;

- since 2005, social disparities have deepened significantly;

- the evolution of the share of wages in GDP is in decline;

- fiscal policy is an essential lever for ensuring the sustainable balance between the remuneration of labor and capital, especially through the progressive taxation of global income.

His work emphasizes that the level of tax revenues and that of total budget revenues are very low in Romania.

Komlos (2019) argues against the model of efficient markets, argues for the need to systematically search for ways to improve the production, consumption and distribution of resources.

It supports the use of the minimum wage as a lever to balance income distribution. The author is convinced that economic growth, in itself, does not lead to satisfaction in life, and poverty can be combated through education.

Emilian Dobrescu, (2021) offers an interpretation of market conditions by including the potential output in the model.The measurement of potential output was approached in economics from a supply and demand perspective, focusing on market conditionalities and providing a macro-model (EUMOD21) as a calculation tool for the period 1996–2019. The potential production estimates obtained with the proposed methodology are compared with those calculated by EU-DGFIN using the production function method (close to the supply-side view).

According our proposal to systematize the literature:

• **macroeconomics and macroeconomic analysis -** Smith (1970) Usher (1980), Barro (1987), Sargent (1999), Dornbusch, Fischer and Startz (2007), Turnovsky (2000), Piketty (2002), Minsky (2011), Anghelache and Sacală (2016), Piketty (2015), Stiglitz (2016), Georgescu (2019);

• **economic thinking models -** Heyne (1991); Bekerman (1968), Dinga (2011), Mazzucatto (2019,2020), Dobrescu (2021);

• **NAS-** the macroeconomic accounts determined by multiple aggregations and syntheses of the information contained in the accounts compiled by economic subjects, economic sectors and branches at the level of the entire national economy **(**Anghelache, Mitruţ and Voineagu (2010, 2013)**, the European EAS 2010 methodology, the IMF methodology, etc.**

• **econometric** modeling - Bekerman (1968), Alesina (1991), Perroti (1992), Barro (1987), Dobrescu – the Romanian model (2013, 2021, 2022);

• **public value, public policies -** Weber (2004), Jessop (2015), Jørgensen and Bozeman (2007); Benington and Moore (2010), Alford and O'Flynn (2011), Nabatchi (2018), Mazzucato and Ryan-Collins (2019**).**

We can observe that:

The recent works revalue established classical texts because the stated principles seem to maintain their relevance (Smith – personal interests, wealth and power, Turgot – inequality in the distribution of property, Rousseau, Sen – justice of distribution, Keynes – macroeconomic issues).

In SNA, conceptually, net balancing elements may be more meaningful because they take into account the sustainability of the use of capital. However, gross balancing items are also used because they are easier to compile than net balances. To accommodate both solutions, dual presentation of gross and net balances is allowed.

Measuring the inequality of income distribution through indicators is of significant importance.

Conceptual aspects

In economic terminology is utilised aggregate supply of gross national product analysed in terms of supply produced in the national economy si aggregate demand or gross national

product analysed from a demand perspective represents the destinations of national income (consumption, investment, export, import), using distinct models, which include economic multiplier (of investments, government expenditure, transfer payments, taxes, balanced budget), the economic accelerator, the attractor, the automatic stabilizer, the rezilientor, the public value, etc. Potential GDP (output) is the level of income that can ensure sustainable economic growth while efficiently using the factors of production, in particular the labour factor, without generating macroeconomic imbalances (inflationary pressures and the accumulation of deficits). Sometimes it is also called full occupancy income, a state otherwise impossible from the perspective of analyzing the output gap variation.

Real GDP (the one actually recorded in the analysis period) depends on the productive capacity of an economy, and this is determined by the resources available to the economy, such as the size of the capital stock, labour force, as well as other factors (demographic, educational, technological level).

The change in the output gap (of the current GDP gap versus potential GDP may be greater than or less than 0, which leads to an increase or decrease in inflationary pressure, underemployment or over occupation. In the nil situation we return the impossible situation, that of full occupation.

Fiscal (budgetary) policy is the instrument used by the government to influence incomes and expenditures, demonstrating the capacity to intervene on the 3 indicators: unemployment (employment), inflation, prices.

The national income (NI) represents the income obtained by the owners of the factors of production through which their contribution to the production of material goods and services is rewarded.

The classic function of the state is to provide public goods and services for citizens.

The distribution of direct income from the economy is determined by the owners of the factors of production who directly participated in their creation (profit for entrepreneurs/ shareholders, salary for the holders of the labour factor , named labour force or human capital, interest for holders of financial capital, annuity for landowners.

Reduce inequality within and among countries is posible by adopting policies, especially fiscal, wage and social protection policies, and progressively achieve greater equality. Redistribution is necessary because the distribution of primary income, does not provide income for all members of the society.

Redistribution reflects the fact that the state is "rooted in a relational ontology of public goods, services, goods, resources and values" Bozeman (2007). Within contemporary states, public activities therefore also include services related to fiscal, monetary and industrial policy.In essence, public value describes what is legitimately created and supported by the government on behalf of the public (Nabatchi, 2018).

Key political areas where public value is created in government include education, health, pensions and the environment, cf. Benington and Moore (2010).

The taxation of income, consumption and other taxes and duties levied by the state become budgetary resources (state budget, local budgets, social insurance budget, etc., respectively the general consolidated budget) constitute secondary income (derivatives).

The budgetary resources are intended to cover the expenditure of those activities that are not productive, but necessary in any society: education, health, culture, public administration, defense, public order, protection and social assistance, especially for disadvantaged and vulnerable categories, etc.

Labour is the most dynamic factor of production at both microeconomic and macroeconomic level. From the confrontation of demand with labour supply result the size and dynamics of the nominal salary , and the deflation of nominal wages with inflation (indicating the purchasing power of the nominal salary) leads to the concept of real wage.

Labour share of Gross Domestic Product (GDP), comprising wages and social protection transfers, is the total compensation of employees given as a percent of GDP, as a measure of total output. It provides information about the relative share of output which is paid as compensation to employees as compared with the share paid to capital in the production process for a given reference period.

In the short term, the level of actual output (national output) can be indirectly changed by fluctuations in the employment rate; theoretically, it is considered to be the optimum degree of employment up to the limit of natural unemployment, an essential condition, in order to achieve a balance at macroeconomic level in any economy.

The most pressing objectives of economic policies in any country are to increase employment and reduce the unemployment rate. It is important to take into account the labour income of the self-employed (half of the global workforce, according ILO), especially as a element of comparabilitty in the states of different region. Economic models divide self-employment different groups, such as free lancers (own-account) workers, contributing family workers and employers.

The labour income of each group mentioned is calculate based of the microdata, and the results means the share of total income that accrues to labour:

Share Labour Income =Labour Income/GDP.

All those employed people who have a job contribute to the national output, while the unemployed cannot or will not contribute to the production of goods and services within the economy. It is therefore assumed that a reduction or decrease in the unemployment rate will be accompanied by a reverse change in the rate of economic growth.

Methodology and Data

The methodology used in carrying out the study consisted in combining several types of analysis:

• theoretical, logical analysis of the concepts of net added value, distribution and redistribution of added value in the economy, resources, capital, wages, public budget, based on an extensive theoretical and bibliographic documentation

• methodological analysis of identification, creation, reporting and analysis of the public budget, of the net added value in the economy based on SNA

• institutional, procedural and behavioral analysis of fiscal policy mechanisms and the net added value redistribution mechanism

• statistical analysis and interpretation of the economic significance of specific statistical indicators:

• The national public budget – the draft budget for 2022 and previous executions

• System of National Accounts (SNA) - the main macroeconomic aggregates reflected by the accounts that are drawn up in the framework of national accounting by institutional sectors and activities

• documents and analyzes regarding the perspective of the national economy in a European and global context based on the inventory of numerous specific or contextual approaches under the conditions of the shock of the COVID_19 Pandemic, of major macroeconomic disturbances and under the influence of a cluster of crises and vulnerabilities

• Romania's National Recovery and Resilience Plan (PNRR) approved by the EU Council

• with regard to quantitative analyzes and algebraic calculations, I note that a better determination of the role of fiscal policy in the fair redistribution of added value through taxation systems can play a key role in ensuring more realistic forecasts, but certain difficulties in accuracy remain estimates and in extracting unaltered effects.

The statistical data used are from primary sources or compilations made by international organizations: the Statistics Department of the ILO (ILOSTAT), the Organization for Economic Cooperation and Development (OECD), the Statistical Office of the European Union (Eurostat), the World Bank (WB), the Monetary Fund International (IMF), National Institute of Statistics (INS), National Bank of Romania (BNR).

The information and data collected by other organizations, mainly from the private sector, are based on the application of questionnaires on selected samples of the population or businesses or they have processed, in turn, in official national and international sources.

Brief Results and Conclusions

We choose for this paper work to present some relevant issues, according the theoretical aspects described above. As we can see below, the share of the income components, implicit labour income, varied significantly across the EU in latest twenty years.

Table 1 presents the changes to each of the income components between 2001-2021 in EU.

Table 2 Income components of GDP (%)

	Compensation of employees			Wages and salaries			Employers' social contributions			Taxes on production and imports less subsidies			Gross operating surplus and mixed income		
	2021	2020	Difference 2021- 2001 (in pp)	2021	2020	Difference 2021- 2001 (in pp)	2021	2020	Difference 2021- 2001 (in pp)	2021	2020	Difference 2021- 2001 (in pp)	2021	2020	Difference 2021- 2001 (in pp)
EU-27	47,8	48,7	**0,5**	37,8	38,5	**0,7**	9,9	10,2	**-0,4**	10,8	10,3	**-0,6**	41,4	41,0	**0,1**
Belgium (1)	48,0	50,4	**-3,3**	35,8	37,4	**-2,2**	12,2	13,0	**-1,1**	9,3	8,5	**-1,9**	42,7	41,1	**5,2**
Bulgaria (2)	45,5	45,5	**9,9**	38,5	38,7	**11,3**	7,0	6,8	**-1,4**	10,8	10,2	**-1,4**	43,8	44,3	**-8,4**
Czechia	45,7	46,1	**6,5**	34,7	35,0	**4,8**	11,0	11,1	**1,7**	7,9	7,9	**0,0**	46,4	46,1	**-6,5**
Denmark	52,2	52,1	**1,4**	47,9	47,8	**0,6**	4,3	4,3	**0,7**	13,5	12,6	**-0,9**	34,3	35,2	**-0,5**
Germany (1)	53,7	54,9	**1,3**	43,9	44,8	**1,5**	9,8	10,0	**-0,2**	8,1	8,2	**-0,9**	38,2	36,9	**-0,4**
Estonia	48,6	51,8	**4,2**	36,5	38,9	**2,6**	12,1	12,8	**1,6**	11,8	11,2	**0,3**	39,6	37,0	**-4,5**
Ireland	26,0	27,1	**-12,4**	21,8	22,8	**-10,8**	4,1	4,3	**-1,7**	5,1	4,6	**-4,6**	68,2	67,4	**17,1**
Greece (1)	36,6	39,8	**5,8**	28,5	30,9	**4,1**	8,1	8,9	**1,7**	10,9	11,4	**-0,5**	52,5	48,8	**-5,3**
Spain (1)	47,7	48,5	**-0,4**	36,3	36,8	**-1,1**	11,4	11,7	**0,8**	10,3	9,1	**1,1**	42,0	42,5	**-0,7**
France (1)	51,4	51,9	**0,3**	38,6	38,8	**1,0**	12,9	13,0	**-0,5**	13,0	13,4	**0,0**	35,6	34,7	**-0,3**
Croatia (1)	46,3	49,8	**-1,8**	40,6	43,7	**-0,4**	5,7	6,1	**-1,4**	15,7	14,2	**-1,2**	38,0	36,0	**3,1**
Italy	40,7	40,6	**3,7**	29,6	29,5	**2,8**	11,1	11,1	**0,9**	12,4	11,6	**0,2**	46,9	47,8	**-3,8**
Cyprus (2)	44,9	45,7	**5,6**	35,9	37,0	**2,9**	9,0	8,7	**2,8**	11,6	10,7	**1,0**	43,5	43,6	**-6,6**
Latvia	49,9	51,7	**9,7**	41,1	42,4	**8,2**	8,8	9,2	**1,5**	11,7	11,5	**0,4**	38,4	36,8	**-10,2**
Lithuania	48,9	48,4	**11,1**	47,3	46,8	**17,5**	1,6	1,6	**-6,4**	9,8	8,0	**-1,6**	41,3	43,5	**-9,5**
Luxembourg	47,2	49,7	**-1,5**	41,0	43,1	**-1,2**	6,3	6,6	**-0,2**	10,7	10,2	**-1,1**	42,1	40,1	**2,6**
Hungary (1)	40,2	41,3	**-4,7**	35,3	35,8	**1,1**	4,9	5,5	**-5,8**	15,5	15,7	**1,8**	44,3	43,0	**2,8**
Malta	45,0	46,6	**-0,3**	41,4	42,8	**0,7**	3,6	3,8	**-1,0**	6,2	5,5	**-5,0**	48,9	47,9	**5,4**
Netherlands (1)	48,7	50,3	**-0,9**	38,2	39,3	**-1,6**	10,6	11,0	**0,8**	9,0	7,6	**-1,4**	42,3	42,0	**2,3**
Austria	50,3	50,7	**2,4**	41,4	41,8	**2,1**	8,8	8,9	**0,2**	9,3	8,6	**-3,3**	40,4	40,8	**0,9**
Poland (2)	38,6	39,7	**-3,4**	32,5	33,3	**-2,6**	6,1	6,4	**-0,8**	13,2	9,7	**0,9**	48,1	50,6	**2,4**
Portugal (1)	48,8	48,8	**0,6**	37,9	37,9	**-0,8**	10,9	10,9	**1,4**	12,5	12,1	**0,9**	38,7	39,1	**-1,6**
Romania (1)	38,1	39,5	**-3,4**	36,3	37,7	**2,3**	1,7	1,8	**-5,7**	9,2	8,6	**-0,5**	52,7	51,9	**3,9**
Slovenia	51,7	53,8	**0,8**	44,5	46,2	**0,2**	7,2	7,6	**0,7**	10,4	8,2	**-3,0**	37,9	38,0	**2,2**
Slovakia	44,1	44,4	**4,8**	33,5	33,7	**3,3**	10,6	10,7	**1,5**	10,2	10,2	**0,8**	45,7	45,4	**-5,7**
Finland	46,4	46,4	**0,1**	38,6	39,0	**1,8**	7,8	7,4	**-1,7**	12,0	12,0	**1,0**	41,6	41,6	**-1,1**
Sweden	47,8	48,6	**1,8**	39,6	40,4	**0,4**	8,2	8,2	**1,5**	19,5	18,8	**-1,4**	32,7	32,6	**-0,4**

Source: Eurostat (online data code: nama_10_gdp)

Source: Eurostat (online data code:nama_10_gdp)

The evolution over the last 20 years shows the clear impacts of the economic and financial crisis and of the COVID-19 pandemic in 2020. We observed a decrease of compensation of employees and increase in profit shares in relation to rather high increases of GDP, between 2000 and 2007. During the crisis, GDP decreased by 4.3 % in 2009 and profits took the biggest hits, and the share of compensation of employees remained resilient. After the crisis, indicator remained relatively stable until 2019. The covid 19 pandemic since 2020 has produced disruptions that will continue in 2021, as we can see in figure 2.

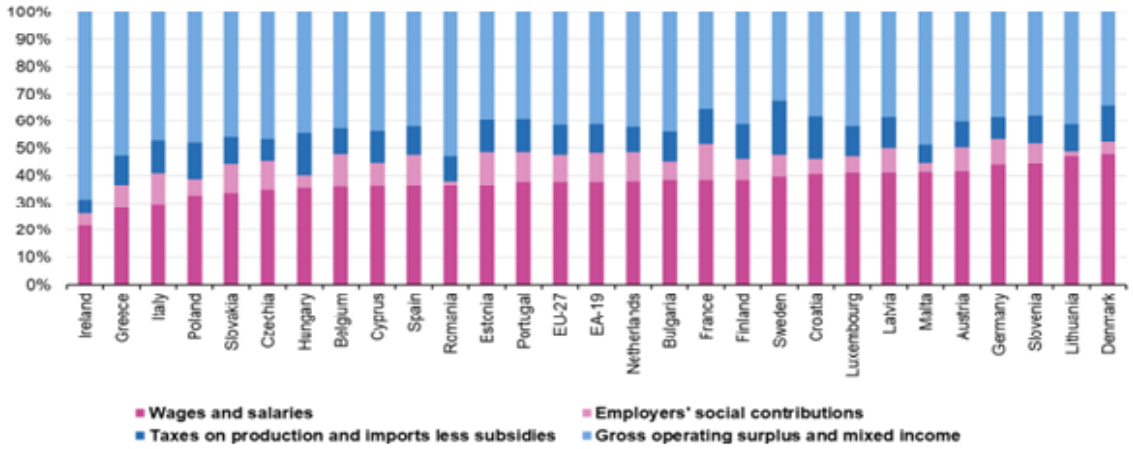

Figure 2 Income components to GDP in EU, in 2021 (%)

Source:Eurostat (nama_10_gdp)

By fig. 2 we can see Denmark (47.9 %) and Lithuania (47.3 %), accounting for 45 % and over share of GDP for wages and salaries, more than the EU average. Ireland (21.8 %), Greece (28.5 %) and Italy (29.6 %) recorded the lowest proportions. Romania (1.7 %) plus another five countries (Lithuania (1.6 %), , Malta (3.6 %), Ireland (4.1 %), Denmark (4.3 %) and Hungary (4.9 %)) reported an employers' social contribution of less than 5 % of GDP.

The share of wages and salaries has slightly risen in the EU, (from 37.1 % in 2001 to 37.8 % in 2021, or +0.7pp), were recorded significant decreases in the share of this component in Ireland (from 32.6 % in 2001 to 21.8 % in 2021, or -10.8pp), Poland (-2.6pp) and Belgium (-2.2pp).

The evolution of earnings by salary for Romania could be see detailed in fig. 3.

Figure 3 Salary earnings in Romania

Source: authors' processing according to INS

Figure 3 show as that the increasing tendancy it is maintained after the pandemic Covid-19, mostly because the state intervantion by publiv policies, and reglemem=ntation, like, minimum wage.

Salaries are the primary method of payment for the work performed by employees within an organization, but benefits and salary bonuses may also be offered. In Romania, the monthly minimum wage was established at 2300 RON (under 500 Euro) in 2021, and in 2022 it increased to 2550 RON (approx. 500 euro), and it will expect to be 3000 RON (600 euro) in 2023, see figure 4.

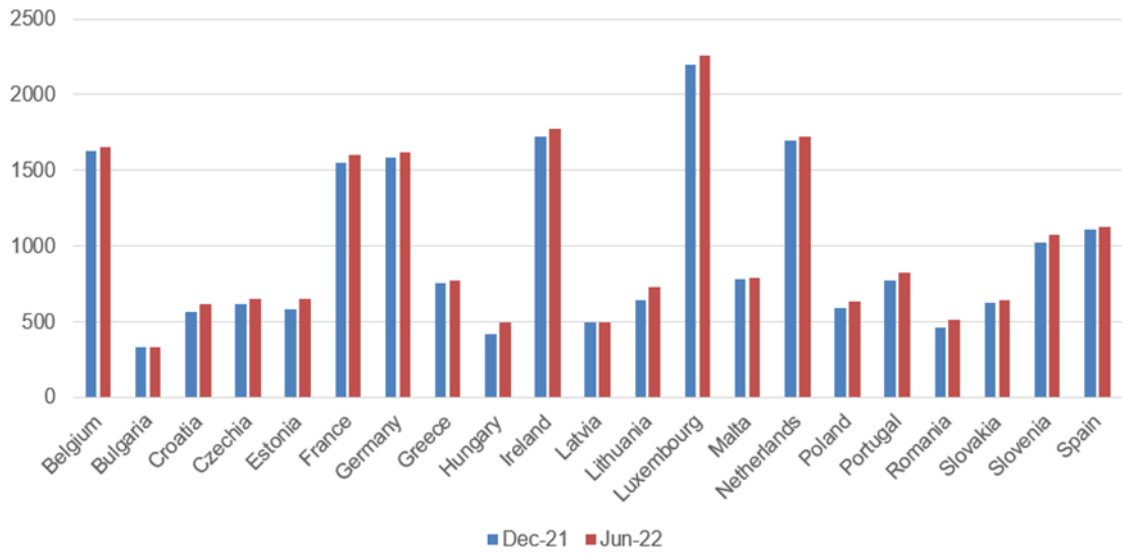

Fig.4 Minimum wage in EU member states (euro)

Source: authors' processing according to TheGlobalEconomy

Figure 4 reveal that Romania has a minimum salary somewhat higher than in Bulgaria (399 euro / month), but much lower than in Luxembourg (2387 euro / month). It must be noted that Italy, Denmark, Austria, Finland and Sweden, doesn't have national minimum wage. According the analyses, in 2018, in Romania (with 61 %), minimum wages represented over 60 % of the median gross earnings close with another 3 EU Member States: France (66 %), Portugal (64 %), Slovenia (62 %) The minimum wages ranged between 50 % and 60 % of the median gross earnings in eleven Member States: Bulgaria (59 %), Hungary (58 %), Luxembourg, the Netherlands and Poland (all 57 %), Ireland (53 %), Germany and Slovakia (both 52 %), Greece (51 %), followed by Belgium and Lithuania (both 50 %). In six Member States: Czechia, Croatia and Latvia (all 49 %), Spain (44 %), Malta (43 %) and Estonia (42 %), the minimum wages were less than half of the median earnings.

A shift in wages to aggregate demand can be negative, as price volatility increases, jobs become unstable, purchasing power decreases, etc. Rigidity of employment contracts manifests itself on the rigidity of real wages. Nominal wage rigidity favours persistence of unemployment.

Long-term and very long-term unemployment, disposable income or poverty can be associated with health and well-being.

Optimal production measurement remains an open problem, with several solutions possible. Increased production and GDP often lead to improved living standards of individuals in the economy, but this will depend on the distribution of real income and public policy and many others factors.

Spending on basic public services is also associated with an improvement in the unemployment situation, albeit in a more limited way. The results of the analyses suggest the positive role of active employment and income redistribution policies

What constitutes public value is constantly evolving, because it reflects the social demands on the state.

For any given level of GDP and profits, the labour income share can fall as a result of falling wages, falling earnings of the self-employed, changes in the composition of employment by income or a combination of these.

Work time (number of hours worked, extra work, programme of the work), type of employment contracts (fixed period, part-time, temporary projects, free-lancing, on demand), working conditions (minimum wage, annual leave, benefits for birth child leave), adaptability of the workforce (mobility, training, change culture, agility) etc. are factors with major influences regarding share of work in value added in national economy.

The share of labour compensation in national output can highlight the extent to which economic growth translates into higher incomes for employees over time (and/or higher earnings for the self-employed). In periods of economic recession, the labour income share provides an indication of the extent to which falling output reduces labour income relative to profits.

Future Directions

In future research, we intend to approached as research topics:

- the economic impact of the tax reform in the EU

- the financing of the tax reform in Romania.

Methodological we will research, not only through an econometric modeling, but also identifying patterns and differences in individuals 'reactions for various categories of incomes and taxes, by conducting analysis of labor market transitions.

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EVALUATING THE RELATIONSHIP BETWEEN ANTI-MONEY LAUNDERING POLICIES AND PER CAPITA CONSUMPTION EXPENDITURE - A FRESH INSIDE FROM MIDDLE-INCOME COUNTRIES

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Abstract:

Money laundering appears to be most common types of financial and economic crime. Significant unlawful earnings are produced by criminal activity, and these profits must be covered before they can be reintroduced into the legal, financial system. Money laundering is most prevalent in nations with lax financial sector regulations and controls, as is the case with all forms of economic and financial crime. Foreign direct investment is halted, capital markets are distorted, and their financial institutions' integrity is compromised. Therefore, money laundering (ML) contributes to worldwide poverty for several reasons. This paper aims to examine the relationship between anti-money laundering policies and per capita consumption expenditure used as a proxy for poverty for 46 middle-income countries over the period 2012 to 2021. Using Driscoll-Kraay as a static model estimation and two-step system GMM, dynamic model estimations, the results indicate that anti- money laundering policies decrease the per capita consumption expenditure, thus increasing poverty in middle-income countries. Furthermore, the results also indicate that the economic and FDI inflow positively decrease poverty. In contrast, inflation reduces per capita expenditure as well.

Keywords: *Poverty, Economic growth, Anti-money laundering index, social sustainability*

JEL classification : *D6, G28, O190*

1. Introduction

This paper questions the money laundering-economic growth-social sustainability trilemma by presenting empirical discoveries which fill a lacuna in the empirical literature. This research paper empirically examines the impact of money laundering, economic growth, and other exogenous variables on social sustainability, which is proxied by per capita consumption expenditure growth which indicates poverty. Conclusion reveal inters alia although economic growth positively impacts social sustainability by reducing poverty, money laundering and inflation appear to be hurdles in achieving social sustainability. Considering that social sustainability is the major for developing countries, thus health, education, and well-being are

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not available equally for all the habitants. Furthermore, high corruption, financial instability, and crimes adversely impact social sustainability. This paper examines the impact of financial crimes such as money laundering and social sustainability in terms of poverty under the shadow of economic growth literature, which justifies engaging this study – especially from the perspective of middle-income countries. Recent literature indicates that social sustainability is heavily debated among researchers, social practitioners, and policymakers. Likewise, the literature suggests that numerous factors harm social sustainability during economic growth and development, such as income inequalities -Bourguignon,(2015), health- Dunning et al., (2010) and multidimensional poverty (Tsui, 2002). Most developed countries hold adequate health and education systems and a social benefit system that reduces social inequalities; however, in developing countries, the situation is apparently more critical. In developed countries, high accountability and a strong financial sector play a significant role in collecting the funds for public spending (Caddy et al., 2007). On the other hand, high-level corruption, lack of accountability, and ineffective government effectiveness hinder social progress (Bird et al., 2008). Lack of accountability and weak regulation allows the flow of monetary funds from the financial system, further creating insufficient public funds for local habitants Padil et al. (2021) highlighted in their research work those financial crimes slower down the economic growth process. Likewise, Janjua & Khan (2020) further endorse that money laundering is a threat to achieving sustainability.

To probe the discourse, a panel of 46 middle-income countries and 3 main variables, such as the money laundering index, economic growth, and poverty proxied by the growth in per capita consumption expenditure, are analyzed along with other exogenous variables from 2012 to 2021. The results of this empirical investigation offer a new fresh inside for interpreting the nexus between the anti-money laundering index and social sustainability for developing countries which regulatory and social policy makers further use in middle-income countries.

Social sustainability contributes to sustainable development in multiple ways. Initially, providing justice in society encourages the distribution of economic resources equally. Furthermore, social sustainability emphasizes the influential role of government by providing essential social services such as health, education, and saving drinking water to everyone (Hoff, 1998). Social sustainability depends on economic growth (Vallance et al., 2011). Several studies highlight that economic growth reduces poverty (Klasen, 2005; Kakwani, 1993; Škare & Družeta, 2016). Roemer & Gugerty (1997) argue that effective economic growth on poverty reduction depends on many factors. Initially, it depends on the economic structure of the countries, and further, it is associated with the income distribution level and stability of the financial sector. Nevertheless, institutional governance also plays a significant role in poverty reduction. Kessides (2006) found that economic growth's impact on poverty depends on demographic factors and population attitudes toward local laws and regulations.

Couchoro et al. (2021) used data from 29 Sub-Saharan African countries from 2010 to 2015. In their empirical analysis, they used panel data threshold estimation and concluded that poverty incidence and high levels of unemployment appear to be hurdles against money laundering. Furthermore, the fight against corruption and strong political stability helps to control money laundering. Likewise, Quirk (1997) argues that anti-money laundering law and regulations undermine efforts to liberalize financial markets. Similarly, Aluko & Bagheri (2012) can reduce money laundering by applying effective regulatory and compliance laws. They further argue in their analysis that money laundering increases social inequality and slow down economic growth. Bidabad (2017) highlighted that in the current digitalization system, reducing money laundering flow requires an adequate detection system; thus, it requires effective transaction monitoring and detection system. Safdari et al. (2015) suggested that a sound banking system and effective monetary appear helpful in illicit financial flows.

Financial development improves human well-being (Nathaniel, (2021). Furthermore, financial development enhances economic growth in developing countries by improving productivity and

creating employment opportunities (Pagano & Pica, 2012). Several studies highlight that financial development decreases poverty by increasing individual income (Donou-Adonsou & Sylwester, 2016; Rewilak, 2017). Regarding empirical studies, Alam and Alam (2021) also used time-series data for India and applied ARDL estimation from 1960 to 2016. Their results indicate that financial development and economic growth reduce poverty in the short run; however, its impact is insignificant in the long. Majid et al. (2019) also applied ARDL estimation for Indonesia from 1980 to 2014. They also concluded that a long-run relationship exists between financial developments, growth, and poverty; however, in the short run, a bi-directional causal relationship exists between the financial sector and poverty. Regarding the impact of trade on poverty reduction, Vos (2007) argued that trade opening probably adds to aggregate welfare and thus might be helpful for poverty reduction. As Mitra (2016) highlighted that international trade could contribute to economic growth and thus can help many poor people escape poverty. Similar evidence has also been provided by (Winters et al., 2004). Gnangnon (2019) highlighted that multilateral trade liberalization is conducive to poverty reduction in developing countries. In their research, Goldberg & Reed (2020) argued that international enables low and low-middle-income countries to integrate with other countries at the international level, therefore; helpful in poverty reduction. Literature indicates mixed evidence concerning the impact of external financial flows on poverty reduction. In terms of remittance impact on poverty reduction, McKay & Deshingkar (2014) empirically analyze the impact of remittance inflow on poverty reduction for Nigeria, Rwanda, South Africa, Uganda, Bangladesh, and Vietnam. They concluded that internal and external remittances flow to many receiving households, mainly in poor rural areas. Furthermore, they also highlighted that remittance inflow does not look helpful in reducing poverty; however, it improves living standards and overall well-being. Similarly, regarding the impact of remittances on poverty reduction, Adams et al. (2008) find that internal remittance inflow is more efficient than outward remittance in poverty reduction for Ghana. They also used primary data to examine the relationship between remittance and poverty reduction. In terms of foreign direct investment, a study by Israel (2014) examined the impact of FDI inflow on poverty reduction in the presence of other control variables such as human capital, inflation rate, government spending, infrastructure, and proportion of outstanding debt to GDP. He used time data for giving variables for the period 1980 to 2009. His results indicate that FDI reduces poverty in Nigeria. Sharma & Gani (2004) used panel data from middle and low-income countries from 1975 to 1999 to examine the impact of FDI on socio-economic progress. They used the human development index as a proxy for poverty and socio-economic progress. Their panel expected least regression results indicate that foreign direct investment positively impacts human development, thus in poverty reduction. Literature indicates mixed evidence regarding the impact of foreign aid on poverty reduction. Mahembe (2018) used panel data from Sub-Saharan African countries from 1981 to 2011 to examine the impact of foreign aid on poverty reduction. He used dynamic panel estimation techniques and found that foreign aid does have a statistically significant poverty reduction effect. Similar results were also indicated by Anetor et al. (2020) for Sub-Saharan African countries. External capital flight increases the capital deficiency for public expenditure. Thus, the government usually increases the tax burden on the population to increase their revenue (Ndikumana & Boyce, 2011). The extra tax burden increases the prices of local production; thus, inflation is usually experienced. Therefore, high inflation increases poverty incidences in the long run (Chani et al., 2017).

Based on the discussion, we have formulated our description of the problem, which is mentioned in next section 2 however; however, the rest of the paper consists of data and methodology (section 3), analysis of research, and discussion (section 4), and conclusion (section 5).

2. Description of the Problem

Our study highlights the nexus between poverty, economic growth, and money laundering index in the panel of 46 middle-income countries from 2012 to 2021. Based on the previous section, the diagram below indicates this paper's research framework.

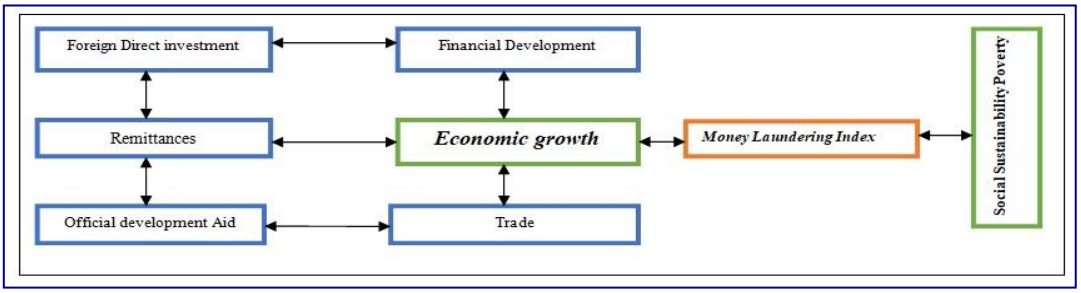

Figure 1. Research Framework

Source: Author Own framework based on discussion

According to the research framework mentioned in figure 1, the following equation will be examined,

$$LNPOV_{it} = \alpha_0 + \beta_1 LNY_{iT} + \beta_2 LNFD_{it} + \beta_3 LNT_{it} + \beta_4 LNINF_{it} + \beta_5 LNFDI_{it} + \beta_6 LNREM_{it} + \beta_7 LNODA_{it} + \beta_8 AMLI_{it} + \varepsilon_i \text{(Equation 1)}$$

In equation 1, LN refers to the log transformation of all used variables. AML index in the above equation refers assessment of the annual ranking of money laundering and terrorist financing. This index is based on ranking 0 to 10 (where 0 indicates the lowest ML risk and 10 indicates the highest level of ML risk). Furthermore, to make our interpretation, we rescale the AML index values using the formula -1* (AMLI-10); thus, AMLI refers to the anti-money laundering index. The new rescaling indicates that a lower score means a less effective system, and a higher score means a more effective system in reducing money laundering. Similar methods were also used by (Ofoeda et al., 2022).

3. Data and Methodology

The source of the variable, unit and description are mentioned in Table 1.

Table 1

Data Source

Variable	Description	Source
POV	Change in per capita consumption expenditure (Poverty)	PovcalNet
Y	GDP growth rate (%)	WDI
AMLI	Anti-money laundering index	Basel committee
DI	Foreign direct investment inflow	WDI
REM	Remittance inflow	WDI
ODA	Official development aid	WDI
FD	Domestic credit of private sector	WDI
T	Trade	WDI
INF	Inflation (consumer price index)	WDI
Note: FDI, REM, ODA, FD and T are (% of GDP)		

Source: Author Own conception

Table 2

Summary Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
POV	460	2.509	3.700	-19.337	22.301
Y	460	3.662	2.735	-10.079	14.047
AMLI	460	5.977	0.907	3.210	8.460
FDI	460	3.189	3.160	-11.625	20.601
REM	460	6.259	6.325	0.000	31.432
ODA	460	1.693	1.850	-0.280	10.856
FD	460	48.052	32.239	10.247	149.373
T	460	76.310	31.771	20.723	211.500
INF	460	4.943	4.361	-3.749	29.800

Source: Author Own conception

Table 2 indicates the summary statistics by limiting the discussion to the variable of interest; for POV, the mean value is 2.509, with Azerbaijan having the highest at 22.3011 in 2012 and Ukraine with the lowest at -19.336 in 2016. Similarly, the mean for Y appears to be 3.662, with Ghana having the highest at 14.047 in 2012 and Ukraine with the lowest at -10.079 in 2015. Furthermore, AMLI means appear to be 5.977, with Cambodia having the highest at 8.46 in 2012 and Bulgaria with the lowest at 3.21 in 2021

Table 3

Correlation Analysis

	POV	Y	FDI	REM	ODA	FD	T	INF	AMLI
POV	1								
Y	0.472	1							
FDI	0.117	0.126	1						
REM	-0.021	-0.027	0.068	1					
ODA	-0.090	0.172	0.255	0.353	1				
FD	0.043	-0.132	0.079	0.067	-0.121	1			
T	0.172	0.017	0.383	0.024	0.086	0.563	1		
INF	-0.164	-0.162	-0.122	0.009	-0.065	-0.256	-0.167	1	
AMLI	0.001	0.218	0.035	0.002	0.236	-0.045	0.000	0.121	1

Source: Author Own conception

Table 3 Indicate the correlation matrix; as per the outcome, the correlation coefficient appears to be below 0.75, which indicates that no multicorrelation exists among the variables.

a) Fixed Effect Driscoll-Karay

We estimate the results by considering the possibility of heterogeneity by applying the fixed effect model. It incorporates the sampled country's policies and practices regarding the social factors and shows the effects in the intercept coefficient. "α_{1j}". The intercept of one country differs from the other country but is time-invariant. The fixed effect captures the countries' specific effects by takings the different economic, geological and social characteristics. Ramoutar (2017) also affirms in his empirical analysis that the advantage of fixed effects with Driscoll and Kraay standard errors is that the problems of heteroscedasticity, autocorrelation, and cross-sectional dependence are all corrected.

b) Two Step Dynamic System-GMM Estimation

The dynamic system-gmm estimation used a dynamic model in the estimation, which serves as a robust model. This approach is suitable because in our analysis N>T; 46>10 thus short panel. Furthermore, system-gmm is suitable for short panel data analysis, and it includes the fact that the process may be dynamic by incorporating lagged dependent variables in estimation. In our case, it would be (1-LNPOV$_{it}$). In this case, the dependent variable is also influenced by the past value. Similar estimation techniques were also used by (Adeleye, & Jamal, 2020; Adeleye et al., 2020).

4. Results

Table 4 reports the impact of economic growth, external financial inflows, money laundering index, and other exogenous variables on poverty proxied by the change in per capita consumption expenditure empirically examined by fixed-effect Driscoll-Kraay estimation. Column (1) shows that among five exogenous variables, besides LNY and LT, increase per capita consumption expenditure, thus decreasing poverty; however, LNFD, LN INF, and AMLI decrease per capita consumption expenditure, thus increasing poverty. Results indicate that 1 unit increase in LNY and LNT increases per capita consumption expenditure by 0.323% and 0.943%, whereas 1 unit increase in LNFD, LNINF, and AMLI decrease per capita expenditure by 0.617%, 0.301%, and 0.076%.

Table 4

Fixed-Effect Driscoll-Kraay (Static model estimation)

Variable	1	2	3	4	5
LNY	0.323 (0.163)*	0.319 (0.165) *	0.325 (0.159) *	0.302 (0.141) *	0.293 (0.132) **
LNT	0.943 (0.483) *	0.862 (0.433) *	0.857 (0.428) *	0.668 (0.463)	0.545 (0.373)
LNFD	-0.617 (0.152) ***	-0.671 (0.158) ***	-0.549 (0.176) **	-0.515 (0.203) **	-0.465 (0.230) *
LINF	-0.301 (0.110) ***	-0.307 (0.107) ***	-0.293 (0.111) **	-0.310 (0.075) ***	-0.298 (0.072) ***
AMLI	-0.076 (0.058) **	-0.074 (0.059) **	-0.103 (0.068) **	-0.119 (0.063) *	-0.148 (0.082) *
LNFDI	-	0.111 (0.145)	-	-	0.013 (0.115)
LNREM	-	-	0.215 (0.107) **	-	0.414 (0.208) *
LINDA	-			0.167 (0.146)	0.197 (0.147)
Constant	-0.641 (2.314)	-0.204 (2.174)	-0.182 (2.042)	-0.416 (2.094)	-1.372 (1.582)
Number of Groups	46	46	46	46	46
Number of Observation	357	350	357	337	330

Source: Author Own conception

Similarly, in Column (2), by incorporating LNFDI, the estimated results indicate the statistical significance and consistent signs of all variables as mentioned in Column (1); however, the magnitude of coefficients is slightly different. By incorporating LNREM in estimation, as mentioned in Column (3), the results also indicate consistent signs of variables as mentioned in Columns (1) and (2); however, the LNREM indicates a positive contributor to reducing poverty. 1 unit increase in the LNREM reduces poverty by 0.215%. By incorporating the LNODA in Column (4), the estimated results indicate the statistical significance and consistent signs of all variables as mentioned in Columns (1) to (3); however, the magnitude of coefficients is slightly different. Similarly, Column (5) presents the impact of 8 exogenous variables on poverty. The estimated results reveal that LNY, LNT, and LNREM positively reduce poverty. However, LNFD, LNINF, and AMLI do not contribute to poverty reduction in sample countries. According to the results, a 1 unit increase in LNY, LNT, and LNREM increases per capita consumption by 0.293%, 0.545%, and 0.414%, thus decreasing poverty. Similarly, a 1 unit increase in LNFD, LNINF, and AMLI tends to reduce per capita consumption expenditure by 0.465%, 0.298%, and 0.148%, thus increasing poverty.

Table 5 reports dynamic system-GMM results; the impact of economic growth, external financial inflows, money laundering index, and other exogenous variables on poverty proxied by a change in per capita consumption expenditure System-GMM estimation is used as a robust model compared to fixed-effect Driscoll-Kraay estimation. The results indicate that the lagged dependent variable coefficient lag.LNPOV is significant and positive for all estimated equations, as indicated in columns (1) to (5).

Table 5

Two Step System-GMM (Dynamic model Estimation)

Variable	1	2	3	4	5
Lag.NOV	0.816 (0.250) ***	0.710 (0.342) **	0.839 (0.279) ***	0.816 0.342) **	0.846 (0.254) ***
LNY	0.655 (0.377) *	0.612 (0.399) *	0.728 (0.426) *	0.713 (0.430) *	0.678 (0.350) **
LNT	0.393 (0.401)	0.697 (0.493)	0.421 (0.383)	0.476 (0.442)	0.706 (0.453)
LNFD	-0.452 (0.271)	-0.385 (0.306)	-0.352 (0.278)	-0.323 (0.291)	-0.382 (0.260)
LINF	-0.015 (0.100) ***	-0.012 (0.104) **	-0.143 (0.104) **	-0.078 (0.107) **	-0.075 (0.108) ***
AMLI	-0.101 (0.204) *	-0.040 (0.202) **	-0.023 (0.191) **	-0.046 (0.019) **	-0.023 (0.178) **
LNFDI	-	0.231 (0.189)	-	-	0.185 (0.170)
LNREM	-	-	0.072 (0.116) **	-	0.028 (0.164) **
LNODA	-	-	-	0.036 (0.065)	0.013 (0.095)
Constant	-2.151 (2.107)	-3.251 (2.219)	-2.270 (2.138)	-2.310 (2.222)	-0.343 (2.094)
Number of Groups	44	44	44	44	44
Number of Observation	269	269	269	269	269
Number of instruments	21	23	23	23	27
AR (2)	0.109	0.246	0.131	0.150	0.112
Hansen	0.310	0.264	0.290	0.275	0.329

Source: Author Own conception

The lag value positively impacts poverty, which means that LNPOV has had a positive and significant impact on the current value of poverty in the past few years. Column (1) shows that among five exogenous variables, LNY increase per capita consumption expenditure, thus decreasing poverty; however, LNINF and AMLI decrease per capita consumption expenditure, thus increasing poverty. Results indicate that a 1 unit increase in LNY increases per capita consumption expenditure by 0.655%, whereas a 1 unit increase in LNINF and AMLI decreases per capita expenditure by 0.015% and 0.101%. Similarly, in Column (2), by incorporating LNFDI, the estimated results indicate the statistical significance and consistent signs of all variables as mentioned in Column (1); however, the magnitude of coefficients is slightly different. By incorporating LNREM in estimation, as mentioned in Column (3), the results also indicate consistent signs of variables as mentioned in Columns (1) and (2); however, the LNREM indicates a positive contributor to reducing poverty. 1 unit increase in the LNREM reduces poverty by 0.072%. By incorporating the LNODA in Column (4), the estimated results indicate the statistical significance and consistent signs of all variables as mentioned in Columns (1) to (3); however, the magnitude of coefficients is slightly different. Similarly, Column (5) presents the impact of 8 exogenous variables on poverty. The estimated results reveal that LNY and LNREM positively reduce poverty. However, LNINF and AMLI do not contribute to poverty reduction in sample countries. According to the results, a 1 unit increase in LNY and LNREM increases per capita consumption by 0.678% and 0.028%, thus decreasing poverty. Similarly, a 1 unit increase in LNINF and AMLI tends to reduce per capita consumption expenditure by 0.075% and 0.023%, thus increasing poverty. Compared to the results of fixed effect Driscoll-Kraay Estimation (main analysis), which are mentioned in table 4, with the estimated results system-GMM (robustness analysis) in table 5, the interpretation of the results will emphasize the consistency of the sign of the coefficient and their statistical significance if any. Therefore, the results indicate that LNY and LNREM appear to reduce poverty in the sample countries, whereas LNINF and AMLI increase poverty incidences.

5. Discussion

This research work aims to highlight the impact of money laundering and other exogenous variables on social sustainability, which is proxied by per capita consumption expenditure growth. Based on our estimation in Tables 4 and 5, results indicate that economic growth positively impacts the income basket of habitants of middle-income countries, thus decreasing poverty. Similar findings were also affirmed by (Adeleye et al., 2020; Fosu, 2017). Furthermore, results also indicate that the inflow of remittances from abroad positively impacts the income basket, thus allowing them to spend more on their general expenditure, which also decreases poverty. Chimhowu et al. (2005) and Inoue (2018) also confirmed similar results in their findings that; remittance inflow decreases poverty incidences. On the other hand, once the consumer price index increases, it decreases the ability to spend more on general expenditure; thus, it increases poverty. Our results endorse this finding, which was previously affirmed by (Tsaurai, 2018; Abbas et al., 2018). Similarly, in terms of the anti-money laundering index, the results indicate that more strict laws and regulations decrease the ability to spend. Thus, banks usually hold an individual's account in terms of trigger event of money laundering or either due to extra measures which eventually decrease spending ability; thus decreasing per capita consumption growth. Furthermore, it is also true to argue that majority of the population living in middle-income countries is part of the undocumented economy, therefore once due to local laws and regulations; people start being part of the formal economy by opening bank accounts and performing the majority of the transaction via banking channel its impact on their daily expenditure thus it also reduces their per capita consumption and increases poverty.

6. Conclusion

To reduce social instability and poverty by increasing social sustainability, this study aligns with the 2030 SDG agenda, thus goal 1 and goal 17, which represent ending poverty and strengthening the financial linkage between the governments indicating FIU (financial intelligence unit) system for combating financial crimes. The empirical research work contributes to the debate on anti-money laundering, economic growth, and social sustainability from the sample of 46 middle-income countries from 2012 to 2021. Finding reveals that economic and remittance inflow from abroad increases the spending capability of habitats from middle-income countries. However, on the other hand, since the financial system of middle-income countries is not so effective and economic growth major part consists of a shadow and undocumented economy; therefore, applying more regulations and financial screening methods reduces the spending capability of the majority of the population. That particular factor increases poverty in the sample countries. Based on finds this research work, from a policy perspective, the government of sample countries should increase the awareness of adaptation of the financial system by increasing the trust level of habitats on banks and other financial institutions. In case of threshold or anti-money laundering screenings, the government should instruct the bank to perform all remediation steps speedily and adequately to avoid hassles by blocking the accounts.

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THE LABOR MARKET IN THE SOUTHWEST OLTENIA REGION OF ROMANIA

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Abstract:

The present paper has as main objective to analyze the labor market in the Southwest Oltenia Region of Romania, in the period 2016-2021. In the Southwest Oltenia Region, the employed population evolved differently on the period studied, recording a maximum in 2019 (782.9 thousand people). The highest number of unemployed was highlighted in 2016 (69,048 people). Compared to the registered unemployment average rate at the national level, in the Southwest Oltenia Region the rate was higher, reaching a maximum in 2016 (8.3%). To realistically emphasize the evolution of the labor market in the Southwest Oltenia Region, a series of indicators were analyzed, such as: labor resources in the region; the civilian active population; the civilian employed population; average number of employees; the number of unemployed, and unemployment rate. The database was assured from the National Institute of Statistics, as well from various specialized researches.

Keywords: *total labor resources, civilian employed population, average number of employees, unemployment rate, Southwest Region Oltenia*

JEL classification: *J10, O13, O15*

Introduction

The South-West Oltenia Region of Romania is made up of the following counties: Dolj; Gorj; Mehedinti; Olt and Vâlcea. The Region is characterized by a varied relief, as well as important hydrographic basins, such as Olt, Danube, and Jiu. According to the published statistics data regarding the participation in the most important economic activities, it is the following: 40% of the civilian employed population works in the service sector; 30% work in agriculture, forestry, and fishing; and 30% work in industry and construction. In this region, tourism and agriculture occupy important positions. The agricultural sector owns over one million hectares that are used for the main cultivation of: cereals; vegetables; fruits; oleaginous plants; sugar beet; potatoes, as well as the production of high-quality wine grapes. There are also find the metallurgical industry, auto industry, electrotechnical industry, car, and tractor manufacturing industry, as more important.

In despite of a diversity of economic activities in the entrepreneurial environment, the unemployment rate was high during the period under analysis, surpassing the national average. This fact shows an imbalance on the labor market in the South-West Oltenia Region. At the national level and regional one, the labor market is influenced by strongly factors such

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as: the supply of goods; capital efficiency; inflation; the ratio between consumption and investments; labor efficiency.

Description of the Problem

Currently, the human resources represent the main production factor which behind of socio-economic development. In this context, concerns have intensified regarding the identification and capitalization of possibilities aimed at improving the labor market situation (Studiu privind dezvoltarea socio-economică a Regiunii Sud-Vest Oltenia, în perspectiva elaborării documentelor de programare 2021-2027. Labor represents the activity carried out by human resources employed in economic and social processes. It sets the other production factors in motion and regulates the transformative processes. Without the human resources intervention, it would be impossible to ensure the contribution of other factors to obtaining production in different area or services. Human resources are unique about their potential for growth and development, as well as in their ability to know and overcome their own limits. Also, the human resource represents one of the most important investments of an economic organization or a business area, the results of which become more and more evident over time. Thus, it is obvious the role of human resources, transformed into human capital, through the theory of participation in various economic processes, through their capacity in creating the organization's wealth (Dobre I, Paicu E., 2013).

The human resources as a human capital can be the most important element of the capitalization of economic organizations or an area, being perceived as an intangible resource, which, by its value, determines the increase of the total value (performance). Determining the impact of intellectual capital on the results of an economic organization or area is a complex process, considering its hardly quantifiable aspect. A series of indicators, however, show the economic condition of the unit, which are also the result of the creative activity. The indicators which result of intervention of intellectual work refers to a higher turnover, increased added value, lower operating expenses, and, hence, high levels of financial and profitability rates. The labor approach can be carried out quantitatively and qualitatively. In this context, the analysis focused on the main specific indicators of the labor market in the South-West Oltenia Region in Romania, in the period 2016-2021. To shows the importance of research in the field of employment, it is important to specify the fact that strong links are established between the dynamics of the labor market at the regional level and economic and social phenomena. The approach of this study regarding the labor market is determined by the changes occurring in the economy. It is about the manifestation of the labor force in a turbulent environment, in which changes are frequent and difficult to anticipate. Moreover, there are differences in the labor force and the labor market at the regional level, a fact that is analyzed in this paper.

Methodology and Data

To carry out this paper, the most important specific indicators of the labor market were highlighted and analyzed, as follows: labor resources in the South-West Oltenia Region; the civilian active population in the South-West Oltenia Region; the civil employed population in the South-West Oltenia Region; average number of employees in the South-West Oltenia Region; the number of unemployed in the South-West Oltenia Region, and unemployment rate in the South-West Oltenia Region. The research takes into consideration statistical data provided by the National Institute of Statistics. The research results were presented both in table and graphical form, expressed quantitatively and in percentages.

Results

The evolution of labor resources in the South-West Oltenia Region, in the period 2016-2021, is presented in table1. Statistical data presented establishes that the labor resources recorded fluctuations during the analyzed period. At the beginning of the year (January 1), the labor resources represent that category of the population of a country that has all the intellectual and physical capacities, which give it the opportunity to perform useful work in one of the activities of the national economy (National Institute of Statistic, 2022). The most significant labor resources in the Southwest Oltenia Region were highlighted in 2016 (1,249.7 thousand people) and the lowest were recorded in 2021 (1,185.2 thousand people). According to the data presented in the table below, in 2021 labor resources decreased by 5.2%, compared to 2016.

Table 1

Southwest Oltenia Region labor resources evolution, period 2016-2021

-thousands of people-

Specification	2016	2017	2018	2019	2020	2021
South-West OLTENIA Region	1,249.7	1,231.5	1,204.5	1,193.4	1,194.2	1,185.2
Dolj	408.8	406.3	398.9	395.8	393	394.5
Gorj	211.7	208.8	203.9	201.5	201.4	200.9
Mehedinți	157.8	154	150.7	149.7	151.2	147.9
Olt	255.9	250.1	243.1	240.6	242.4	236.9
Vâlcea	215.5	212.3	207.9	205.8	206.2	205

Source: National Institute of Statistic, 2022

According to the statistical data presented, at the level of the counties that are part of the South-West Oltenia Region, there are different situation in terms of labor resources, in the analyzed interval. Dolj County is the county leader in terms of labor resources, and the most significant job losses were recorded in 2016 (408.8 thousand of people). Starting with 2017, there is a decrease in labor resources, from 406.3 thousand people to 393 thousand people (2020). Also, it registered a slight increase of labor resources from the year 2021, to 394.5 thousand people. The lowest labor resources from a quantitative point of view are registered in Mehedinti County, where the labor force changes were from 157.8 thousand people (2016), to 147.9 thousand people (2021). At the level of the other counties that are part of the South-West Oltenia Region, it is noted that, in 2021, compared to 2016, labor resources have decreased. This situation had a less positive impact on the economy of this region.

The active civilian population in the South-West Oltenia Region, in the period 2016-2021, is presented in table 2. The civilian active population represents the potential supply of labor, but also the degree of occupation of the population. From an economic point of view, the active population includes people employed in the labor market and the registered unemployed (Observator teritorial https://observator.mdrap.ro/demografie//2.3.1.pdf).

According to the statistical data presented in table 2, it is found that the civilian active population during the analyzed period, in the South-West Oltenia Region, registered changes, mostly of a negative one. The active civil population decreased from 830.4 thousand people (2016) to 695.5 thousand people (2021).

Table 2

Active civilian population in the South-West Oltenia Region, period 2016-2021

-thousands of people-

Specification	2016	2017	2018	2019	2020	2021
South-West Oltenia Region	830.4	827.7	826.9	825.9	825.9	695.5
Dolj	265.1	265.8	266.1	266.2	267	225
Gorj	136	135.8	135.8	135.2	135.5	119.5
Mehedinti	104.1	104.2	103.7	102	101	82.6
Olt	162.6	161.8	161.8	161.2	160.3	129.4
Valcea	162.6	160.1	159.5	161.3	162.1	139

Source: *National Institute of Statistic, 2022*

In 2016, the active civilian population registered in the South-West Oltenia Region had a weight of 9.5% of the active civilian population registered at the national level, and in 2021, this weight was reduced to 8.8%. It is noted that both at the national level and at the level of the South-West Oltenia Region, the active civilian population has decreased. This decrease in the active population is a direct consequence, on the one hand of the population decrease, and on the other hand, it is due to the change in its age structure (Tendințe sociale, https://insse.ro/cms/sites/default/files/field/publicatii/tendinte_sociale.pdf). Also, in 2021 compared to 2016, the active population decrease with 16.2%. The study continues with the analysis of the active civilian population at the level of the counties in the components of the South-West Oltenia Region, where the differentiated evolution was noted. Dolj County is on the first place of the ranking in terms of the active civilian population.

The most significant civilian active population was registered in 2020 (267 thousand people). In 2021, the Dolj county had a share of 32.3% of the active civilian population registered at the level of the development region. Olt County registered the largest civilian active population in 2016 (162.6 thousand people). In 2021, the active civil population in this county decreased by 20.4%, compared to 2016. Vâlcea County recorded the largest active civilian population in 2016 (162.6 thousand people). In 2021, a 14.5% decrease in the active population is observed, compared to 2016. Gorj County showed the largest active population in 2016 (136 thousand people). In 2021, the active civilian population decreased by 12.1%, compared to 2016. Mehedinți County recorded in 2017 the most significant active civilian population of 104.2 thousand people, and the lowest was 82.6 thousand people. In 2021, Mehedinti county had a share of 11.8% of the active civil population registered at the level of the South-West Oltenia Region.

The analysis of the dynamics of the labor market is also captured by the employed population indicator (Tendințe sociale, https://insse.ro/cms/sites/default/files/field/publicatii /tendinte_sociale.pdf). The situation of the civilian employed population in the South-West Oltenia Region is presented in table 3. The civilian employed population includes all people who have an occupation that brings income. He constantly exercises this income-generating occupation in one of the activities of the national economy based on an employment contract or independently (INS). In the period 2016-2021, the civilian employed population in the South-West Oltenia Region registered a series of oscillations, from one period to another. The most significant civilian employed population in this region was recorded in 2019 (782.9 thousand people), and the lowest was 657.6 thousand people, in 2021.

Table 3

Civil employed population in the South-West Oltenia Region, period 2016-2021

-thousands of people-

Specification	2016	2017	2018	2019	2020	2021
South-West Oltenia Region	761.3	767.3	778.3	782.9	780.1	657.6
Dolj	239.2	242.5	246.4	248.3	248.1	209.6
Gorj	125.9	127.2	129.9	130.5	130.3	115.2
Mehedinti	94.1	94.4	95.7	95.1	94.5	76.9
Olt	147.7	149.8	151.7	152.3	150.9	121.7
Valcea	154.4	153.4	154.6	156.7	156.3	134.2

***Source**: National Institute of Statistic, 2022*

In 2021, the civilian employed population in the South-West Oltenia Region decreased by 13.7%, compared to 2016. The situation in 2021 coincided with the period in which the health crisis manifested itself, when several companies reduced their activity, and some of these have gone bankrupt. In 2021, at the national level the South-West Oltenia Region had a share of 8.6% of the employed civilian population. The data presented in table 3, shows the following situation regarding the civilian employed population at the level of the counties of the South-West Oltenia Region: Dolj County occupies the first position of the list regarding the civilian employed population.

The largest civilian employed population was registered in 2019 (248.3 thousand people). In 2021, the civilian employed population decreased by 12.4%, compared to 2016. Vâlcea County registered the most significant civilian employed population in 2019 (156.7 thousand people). In 2021, there was a decrease in the civilian employed population by 13.1%, compared to 2016. Olt County recorded the largest civilian employed population in 2019 (152.3 thousand people). In 2021, the civilian employed population decreased by 17.7%, compared to 2016. Gorj County registered the largest civilian employed population in 2019 (130.5 thousand people). In 2021, the civilian employed population decreased by 10.7%, compared to 2016. Mehedinti County marked the lowest civilian employed population among the counties in the South-West Oltenia Region. The civilian employed population decreased from 94.1 thousand people (2016) to 76.9 thousand people (2021). In this county, the civilian employed population in 2021 decreased by 18.3%, compared to 2016.

The average number of employees represents another significant indicator related to the labor market in each country, regardless of the existing economic system. According to the definition given by the National Institute of Statistics, the average number of employees includes people who are employed with a work contract or service report, for a fixed or indefinite period. Regarding the people included in the average number of employees, must specify that their employment contract or service report was not suspended during the reference period. The analysis of the civilian employed population indicator shows that, in 2021, it decreased both at the regional level, but also at the level of all the counties in the region studied, compared to 2016. The average number of employees in the Southwest Oltenia Region, in the period 2016-2021, is presented in table 4. The situation of this indicator varied from one year to another, in the analyzed development region.

Table 4

Average number of employees, South-West Oltenia Region, period 2016-2021

-persons-

Specification	2016	2017	2018	2019	2020	2021
South-West Oltenia Region	370,663	383,102	397,360	405,867	396,215	402,506
Dolj	118,817	124,443	130,506	134,187	132,019	133,135
Gorj	69,328	70,403	72,903	75,145	73,411	73,771
Mehedinți	42,717	43,638	44,230	45,255	43,535	44,306
Olt	65,797	68,221	71,039	71,797	70,272	71,163
Vâlcea	74,004	76,397	78,682	79,483	76,978	80,131

Source: *National Institute of Statistic, 2022*

The average number of employees fluctuated from 405,867 people, in 2019, to 370,663 people, in 2016. In 2021, the average number of employees in the South-West Oltenia Region increased by 8.5%, compared to 2016. This region analyzed in 2021, it held 7.9% of the average number of employees registered at the national level.The average number of employees varied from one year to another during the analyzed period. Dolj County, as expected, registered the highest average number of employees, noticeably separating itself from the rest of the counties in the region. In 2021, this county had 33.0% of the average number of employees registered at the regional level. The most significant average number of employees was recorded in 2019 (134,187 people). In 2021, the average number of employees in Dolj county increased by 12.0%, compared to 2016. During the analyzed period, Mehedinți County registered the lowest average number of employees in the South-West Oltenia Region. In 2016, it highlighted the lowest average number of employees, 42,717 people. Here, in 2021, the average number of employees increased by 3.7%, compared to 2016.

Table 5 shows the evolution of the unemployed in the South-West Oltenia Region, in the period 2016-2021. The unemployed population is a particularly important indicator that is the basis of the analysis of the labor market. During the analyzed period, the number of unemployed people in the South-West Oltenia Region registered changes from one year to the next. The highest number of unemployed registered at the regional level was in 2016 (69,048 persons), and the lowest was 37,800 persons (2021). From the statistical data presented, it can be seen that in 2021, the South-West Oltenia Region registered 16.1% of the total number of donkeys highlighted at the national level. At the level of the counties in the South-West Oltenia Region, a differentiated evolution of the unemployed can be observed in the period 2016-2021. In the analyzed period, Dolj County registered the highest number of 25,869 unemployed (2016). This county had 37.4% of the number of unemployed people registered in the South-West Oltenia Region, in 2016. Also, in the previously specified interval, the number of unemployed people fell on a downward trend, reaching 15,375 people, in 2021. This positive situation demonstrates that in this county the entrepreneurial environment has intensified, which has led to the creation of new jobs. Olt County is on the 2nd place in the list of counties in the South-West Oltenia Region that registered a significant number of unemployed. The highest number of unemployed people was highlighted in 2016 (14,897 people). In 2021, the number of unemployed decreased by 48.6%, compared to 2016. Mehedinți County registered the highest number of unemployed in 2021 (5,641 people). In Gorj county, the number of unemployed varied from 10,034 people (2016), to 4,295 people (2021). The number of unemployed people decreased significantly, respectively by 57.5%, compared to 2016. In Vâlcea county, the lowest number of unemployed people was highlighted in 2019 (4,560

people). At the level of all counties, unemployment can be reduced especially by attracting local and foreign investments.

Table 5

Number of unemployed, South-West Oltenia Region, 2016-2021

-number of people-

Specification	2016	2017	2018	2019	2020	2021
South-West Oltenia Region	69,048	60,405	48,668	43,024	45,823	37,800
Dolj	25,869	23,331	19,728	17,945	18,872	15,375
Gorj	10,095	8,600	5,914	4,735	5,212	4,295
Mehedinți	10,034	9,777	7,996	6,929	6,503	5,641
Olt	14,897	12,027	10,138	8,855	9,441	7,659
Vâlcea	8,153	6,670	4,892	4,560	5,795	4,830

Source: *National Institute of Statistic, 2022*

According to published studies, unemployment had a different impact on the population in the regions of Romania. It was generated by the level of economic development specific to each region (Regional de Acțiune pentru Învățământ (PRAI) 2016-2025, Regiunea de Dezvoltare Sud Vest Oltenia, http://infraed.ro/wp-content/uploads/2018/10/PRAI-SVO-.pdf).

Regarding the unemployment rate, this is a relevant indicator for the analysis of the work. According to the data, it is also evident in this case a differentiation of this indicator both at the regional level, but also at the level of the counties within the region. During the analyzed period, the unemployment rate in the South-West Oltenia Region surpassed the average unemployment rate registered at the national level (see Table 6). For the entire region, the highest unemployment rate was 8.3% (2016), and the lowest was 5.2% (2019).

Table 6

Unemployment rate, South-West Oltenia Region, 2016-2020 (%)

Specification	2016	2017	2018	2019	2020
TOTAL	4.8	4.0	3.3	2.9	3.4
South-West Oltenia Region	8.3	7.3	5.9	5.2	5.5
Dolj	9.8	8.8	7.4	6.7	7.1
Gorj	7.4	6.3	4.4	3.5	3.8
Mehedinți	9.6	9.4	7.7	6.8	6.4
Olt	9.2	7.4	6.3	5.5	5.9
Vâlcea	5.0	4.2	3.1	2.8	3.6

Source: *National Institute of Statistic, 2022*

By county, the unemployment rate recorded different values during the period under analysis. The highest unemployment rates were recorded in 2016 as follows: Dolj county (9.8%); Mehedinți county (9.6%) and Olt county (9.2%). The lowest unemployment rates were recorded in 2019 in Gorj (3.5%) and Vâlcea (2.8%).

Conclusions

The research focused on the analysis of one of the most important sections of the markets in the Romanian economy, namely the labor and labor market. The study was based on data taken from the National Institute of Statistics of Romania for the period 2016-2021. To

capture the concrete situation, a series of economic indicators specific to the field of study were used, with reference to labor resources in the region, the civilian active population; the civilian employed population, average number of employees; the number of unemployed, and unemployment rate. To reproduce the results of the study as well as possible, the analysis was carried out both at the level of the South-West Oltenia Region, and at the level of each related county, for each economic indicator, obtaining information that gives the possibility of an overall image of the way of behavior of the phenomenon. The main findings, of the economic analysis undertaken, showed a various situation on indicators and years.

Labor resources: In 2016, the most important labor resources were registered, of 1,249.7 thousand people at the regional level. Dolj County occupied the first position in this region, in terms of labor resources, reaching a maximum of 408.8 thousand people (2016).

The civilian active population: In 2016, the South-West Oltenia Region held 9.5% of the active civilian population highlighted at the national level. Dolj County, in 2021, recorded 32.3% of the civil active population registered at the regional level.

The civilian employed population: The most important civilian employed population in this region was highlighted in 2019 (782.9 thousand people). Dolj County registered the largest civilian employed population of 248.3 thousand people (2019). Mehedinți County recorded the lowest civilian employed population, in 2021.The civilian employed population decreased by 18.3%, compared to 2016.

The average number of employees: The most representative average number of employees was in 2019 (405,867 people), at the regional level. Dolj County registered the highest average number of employees of 134,187 people (2019).

The number of unemployed: The most significant number of unemployed highlighted at the regional level was 69,048 people (2016).

The unemployed rate: At the regional level, the highest unemployment rate of 8.3% (2016). in the year 2016, Dolj county recorded the highest unemployment rate, 9.8%. In the year 2019, Vâlcea county showed the lowest unemployment rate, of 2.8%.

Considering the mentioned findings and the potential of the South-West region of Oltenia and the capacity of the counties that form it, a series of solutions are needed to improve the imbalances on the labor market in this area. In this way, the proposal can refer to an infrastructure development; attracting local investments; attracting foreign investments; attracting European funds; the development of education; the reopening of technical schools; demand stimulation; modernization of tourism.

Future Directions

As mentioned above, matching the labor market with workforce requirements must be an ongoing opportunity for research and investigation. Therefore, the authors' efforts in the future will deepen the current study and for the succeeding periods, using databases corresponding to statistics and economic interpretation. Moreover, the research will be extended to the level of the other development regions, to obtain a final comparative analysis that could be useful for further studies and for other categories of problems, in which the labor market is also found.

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THE IMPACT OF THE FISCAL POLICY CHANGE ON THE MAIN MACROECONOMIC VARIABLES

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Abstract:

In this article we propose an empirical study using a Bayesian VAR type model with which we quantify the impact of fiscal policy changes on the main macroeconomic variables, namely the exchange rate, market interest rates, inflation, unemployment, etc. The results show us that most shocks extinguish at the time of monetary policy interventions of the opposite direction to the type of fiscal policy.

Keywords: *Bayesian VAR, Fiscal Policy, Monetary Policy*

JEL classification: *E62, H21, O23*

Introduction

Afonso and Sousa (2011) used in their study a new quarterly dataset (1979:1-2007:4), estimating a Bayesian-based Structural Vector Autoregression (BSVAR), in order to analyze how the fiscal policy can affect the macroeconomics. They concluded their study by demonstrating how positive government spending shocks have a negative effect on real gross domestic product, but also on investments and private consumption, leading to major "crowding-out" effects. However, these shocks have a positive effect on the average cost of financing government debt and price level. Positive government revenue shocks have opposed effects on the price level, but the GDP is still negatively affected. The study also demonstrates the importance of taking into consideration the government debt dynamics in the model. At the same time, the "crowding-out" effects derived from unexpected positive government spending shocks are confirmed by a VAR counterfactual exercise.

Corsetti et all, (2011) Conventional wisdom indicates that a fixed exchange rate leads to a more effective fiscal policy, rather than a flexible one. In their study, within a New Keynesian model of a small open economy, the authors reassess the transmission of shocks to government spending across these two types of regimes.

With a stronger emphasis on intertemporal optimization, the standard New Keynesian model calls for a precise specification of monetary and fiscal policies, but also an interaction of these two, both in the short run and in the long run. The study demonstrates how the long-term interest rate rises as a response to an increased government spending if initially the inflation

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rises. This causes the private demand to decrease, although real rates fall in the short-run. Under reasonable fiscal policies in the medium-run and under floating exchange rates, government spending is not considered less expansionary.

Parkyn & Vehbi, following the methodology used by Blanchard & Perotti (2002), conducted a study based on the changes in government revenue, inflation, interest rate and spending on output in New Zealand, analyzing the effects of business cycles in a Structural VAR framework.

The results of the study demonstrate the fact that government spending shocks have a small but positive short-term impact and also lead to a lower output and higher interest rates in the medium to long-run. The effects on gross domestic product (GDP) seem similarly modest.

After studying the effects of past fiscal policy, Parkyn & Vehbi concluded that a discretionary fiscal policy leads to a pro-cyclical impact on gross domestic product, having also a serious impact on the interest rate in the long run. Thus, the study demonstrates that a fiscal expansion has a small effect on inflation, yet positive.

Methodology and Data

This chapter presents a methodology for the empirical analysis of identifying strategies of fiscal policy shocks and the data used in this process. After the introduction of Vector autoregressive (VAR) model by Sims (1980), most studies have focused on the impact that monetary shocks have on the economy, using forecast error variance decomposition, results of impulse response functions and historical decomposition.

SVAR models are used, in general, to determine the macroeconomic effects of key interest rate innovations. In this article, in order to explore the dynamic effects of unconventional monetary policies, we will use the SVAR methodology.

The VAR model used to decompose innovations into mutually orthogonal components is represented below:

$Y_t = \alpha + A(L)Y_{t-1} + D\varepsilon_t,\ \ \varepsilon_t N),\ t = 1,2,\dots,T$ where:

Y_t is a vector of endogenous variables;

α - the vector of constants;

$A(L)$ is a matrix polynomial in the lag operator L and D the contemporaneous impact matrix of the mutually uncorrelated disturbances.

ε_t. $\varepsilon_t = (\varepsilon_{1,t}, \varepsilon_{2,t}, \dots, \varepsilon_{n,t})$ is a vector of residuals of the model, following a multivariate normal distribution, the errors being identically and independently distributed;

In Bayesian statistical inference, a priori probabilities are treated as random variables and assigned to the parameters utilized in the model. Based on findings in the scientific literature, a priori distributions of the estimated parameters are combined with the likelihood function. This reflects the information contained in the data, leading to a posterior distribution.

The main objective is to decompose the residuals into structural shocks, by identifying the contemporary relationship between the residuals in the reduced form of the VAR model and structural innovations. Economic theory provides ways to identify contemporary links between variables, starting from the hypothesis that structural shocks are mutually orthogonal, necessary in order to obtain significant impulse response functions.

The data used in the model has a quarterly frequency, from July 2005 – June 2022 and includes a series of variables that allow us to correctly identify the shocks and also to analyze the main transmission channels of the fiscal policy of the Romanian economy. Data used in this article is collected from Eurostat.

The strategy used to identify shocks requires a fiscal policy shock, quantified by increasing the budget deficit, thus suggesting a procyclical fiscal policy, presented in the table below:

Table 1

Budget deficit	ROBOR 3M	Unemployment	Inflation	Real Exchange Rate
+	0	0	0	0

Results

Intuitively, analyzing impulse response functions, the reactions of the macroeconomic variables to a positive shock of the budget deficit are consistent with the economic theory, and thus, the links between them and the fiscal policy can be highlighted, using a Bayesian vector autoregressive model.

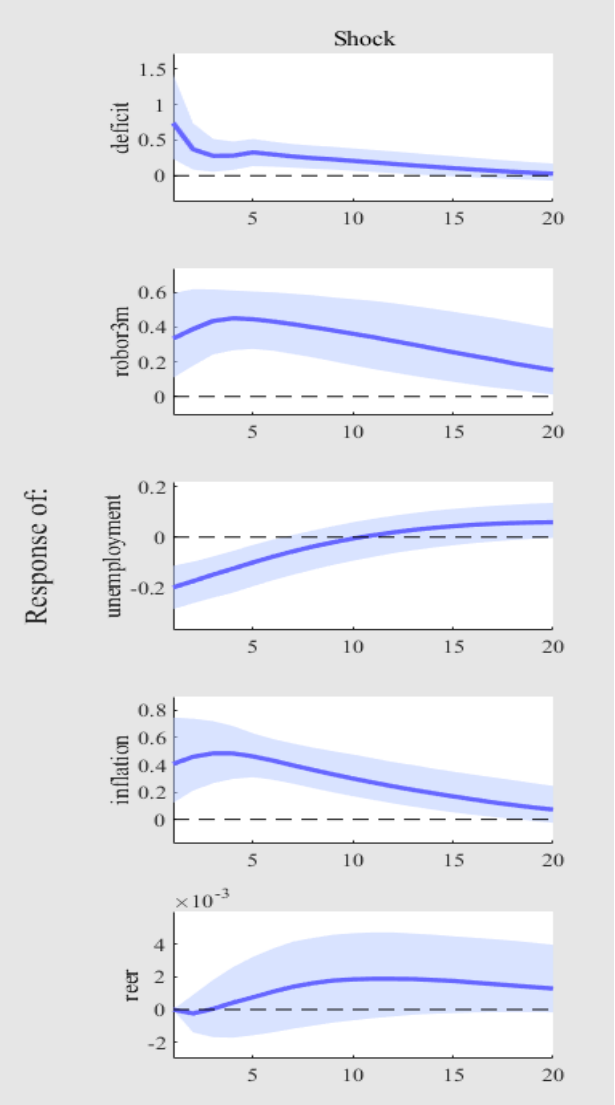

Figure 1 – Impulse response function (IRF)

Source: own processing

A truly positive shock to the fiscal impulse should come from higher revenues, as a consequence of fiscal optimization and from a more efficient redistribution of resources.

Usually, a pro-cyclical fiscal policy suggests an overheated economy, which leads to major imbalances. In the short term, the fiscal impulse has positive effects, quantified by decreasing unemployment and increasing output, but it also has the effect of depreciating the real exchange rate. In the long term, the unemployment rate is very little influenced by government intervention.

A positive shock of the fiscal impulse leads to an inflationary pressure in the economy which automatically attracts a restrictive monetary policy conducted by the Central Bank, having the role of stabilizing the economy. The increase in the monetary policy interest rate will have as an immediate consequence the increase of the interbank interest rate and implicitly of the rates charged by state banks, companies and households. The state and the real economy will borrow more and more expensively, the long-term result being a decrease in economic activity.

The excessive increase in the budget deficit during the Covid-19 pandemic shows its effects in this period through extremely high inflation, persistent over time and amplified by the energy crisis we are going through. The central bank's interventions, to reduce inflation with the help of monetary policy instruments, lead to a significant increase of the interest rate and also create big shocks in the real economy, inevitably leading to a decrease in economic growth or even a recession.

Conclusions

The impact of fiscal programs aimed to stimulate savings depends on the degree of economic openness and financial integration of the countries in which they are applied.

The short-term effects of the fiscal stimulus packages of the economy are influenced by the perception of its long-term costs. Thus, the more an expansionist fiscal policy is perceived to be more expensive in the long term (the rapid increase in public debt and its associated service, a high-country risk), the less it will influence the economy in the short term.

The strategy for identifying the fiscal-budgetary policy shocks, chosen by us highlights, at the same time, the interaction between the fiscal-budgetary policy and the monetary one.

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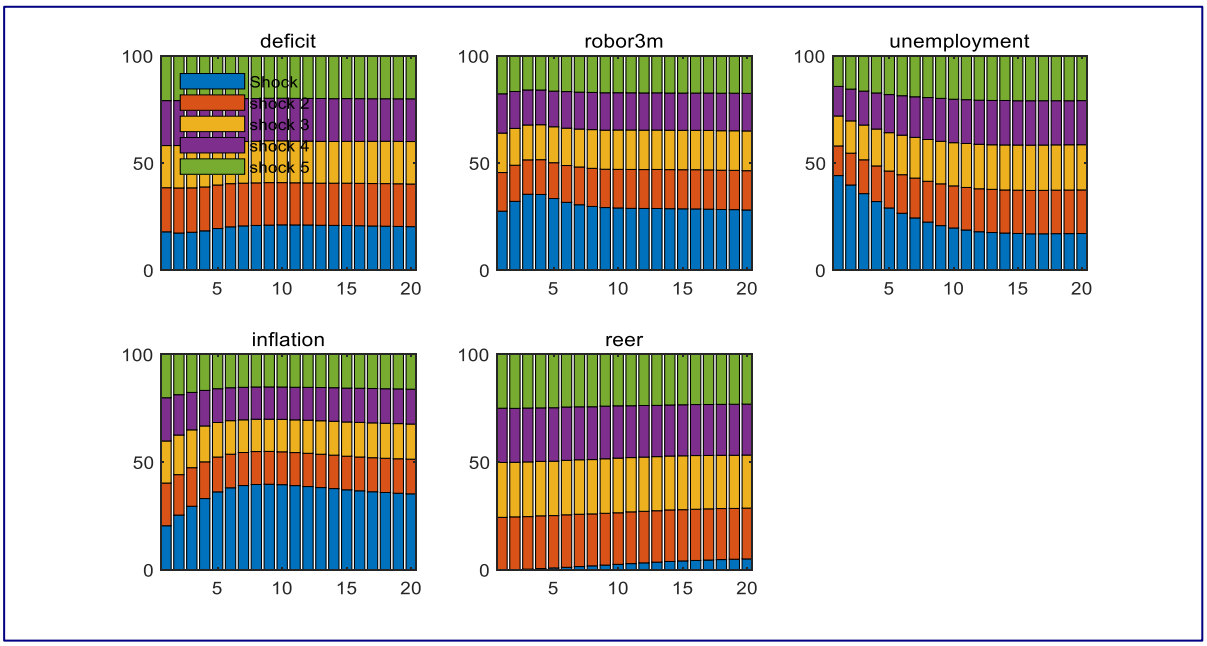

Figure 2 – Variance error decomposition
Source: own processing

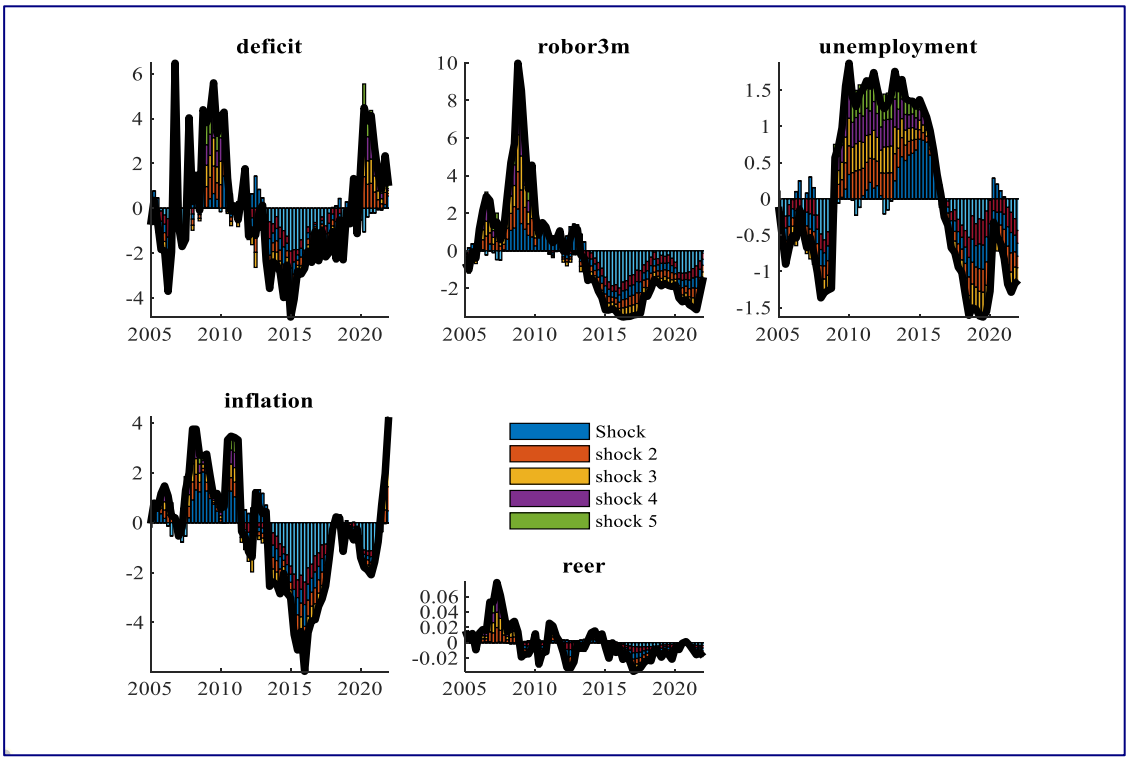

Figure 3 – Historical decomposition
Source: own processing

SECTION II. FINANCIAL AND MONETARY CHALLENGES

EMPIRICAL RESEARCH ON BANK PERFORMANCE EVALUATION ALBANIAN BANKING SYSTEM

Erjola BARBULLUSHI [24]

Abstract:

Banking system weaknesses, even in developed or developing countries can threaten its financial stability. Referring to the latest financial development around the world the need to improve the financial system soundness has paid international attention nowadays.
Albania as a country in which financial system is based on financial institutions has faced various situations domestic or foreign sources. Albanian banking system represents almost 90% of the overall financial system, that's why we paid attention to this sector. During the study period banking system in Albania was increasing and developing rapidly. The need for more in-depth analysis and supervision is required in this situation. Even why supervisory and regulatory authorities monitor evenly the stability of the banking system through their traditional tools, it is important to stress that bank evaluation first must be oriented toward their internal processes.
We try through this study to evaluate the efficiency in the banking system in Albania using a combination of non-parametric approaches. There is a huge number of studies based on bank performance evaluation, though using usually financial ratios. Non- parametric approaches are not widely applied in European countries even in Balkan countries as well.
This study aims to shed light on a new point of view on bank performance evaluation and to offer to bank managers and supervisory authorities a complementary tool. The study is performed first using data from the Annual Reports of each bank understudy from 2006 to 2015 and later was extended to five more years.
The results show a huge difference the last five years, mainly in large banks which in some cases have been enlarged by new acquisitions in the domestic market and due to bank concentration.

Keywords: *Banking, CRS, DEA, Efficiency Evaluation, VRS, Performance*

JEL classification: *C67, D57, G21*

Introduction

Last decade the world was faced with many crises which affected everyone's life directly or indirectly. When it comes to the personal wellbeing people refer to health and financial conditions to estimate it. In this context financial stability is an important pillar of an economy to support and develop other sectors.

Financial health of financial institutions may act as a booster for the economy and individuals as well, especially in countries that's the financial system is a bank based one. Albania is one of these countries, with a small economy which all capital inflows and outflows pass through them.

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In this context it is of a crucial importance to estimate indicators that let us understand what is happening and what we will expect to happen to these banks. There are many studies that offer insights about the financial performance indicators for banks operating in Albania.
The first attempt to estimate the efficiency of banks, in my PhD thesis was till 2015, over a ten-period analysis employing a non-parametric approach. In this study we try to complement the previous study with more five years in order to make more visible how the efficiency of banks changed making also a comparison pre and after Covid 19.

So, we try to give some answers to our questions:1. Is there any significative change in bank efficiency from small to large banks?

2. Does this efficiency change come from the pandemic due to low business activity, low landing rates and high costs? How did banks respond to the government aid for the period studied, did the NPL been affected? In addition, there are discussed the implication that arise from the pandemic in the context of Albanian banks.

Description of the Problem

Bank efficiency evaluation can be performed through different tools which use exchange market data, financial data, operational data or accounting data. Albania is a small country which is lack of liquid exchange market, that`s why is difficult to obtain data other than those published in financial statements.

The approach used in this study is known as Data Envelopment Analysis. It originally was developed by Charnes, Cooper, Rhodes(1978) with CRS and was extended by Banker, Charnes, Cooper(1984) to include variable returns to scale. So the basic DEA models are known as CCR and BCC. DEA is a non-parametric approach which enables in our case, bank efficiency evaluation of a single unit known as the Decision-Making Unit (DMU) the bank, which can transform multiple inputs to multiple outputs (Cooper, Seiford, Zhu, 2004).

Mostly the studies which use non-parametric approaches in banking industry are performed in Middle East, USA and little in Europe. There is lack of evidence in applying these approaches in small countries like Albania with a few number of commercial banks. According to Arjomandi (2011), two main directions drive bank efficiency evaluation in developing countries: first, to evaluate the policy implementation for banks and from banks such as the effect that privatization, market structure and mergers and acquisition between banks can affect their efficiency. Second, DEA is used for efficiency comparison in different periods. Casu and Moulynex (2003) realized a study for productivity evaluation purposes in EU banks from 1993-1997, at the time of UMP (Unified Market Programm), to identify if there is a convergence between 750 banks studied. They found that there was little improvement in productivity efficiency except Italy. The differences identified between banks were due to specific aspects of information systems adopted from banks in different countries. As a result, the UMP had not given the right results in the period of study.

Hallo and Naggy ( ), realized a study for evaluation of efficiency differences in banks from new EU member countries against banks from older EU member countries. The study was realized in 2459 banks, from 25 EU member countries for the period 1999-2003. From the study, the new member EU countries showed weak X-efficiency and profit efficiency compared to the older member countries. Other important studies on bank efficiency evaluation that have adopted DEA is; Comanho and Dyson (1999, 2005, 2006), Vujcic and Jeremic (2002), Fiorentino, Karmann and Koetter (2006), Brown (2006), Sherman and Zhu (2006), Sherman and Rupert (2006), Das et al (2007), Pasioras (2007), Noulas et al (2008), Kosmidou and Zopounidis (2008), Tahir et al (2009), Toci (2009), Nitai (2009), Brack and Jomboreon (2009), Havraneck and Irsova (2013), Titko and Jureviciene (2014) etc.

According to Berger and Humphrey (1992) commercial banks represent a service industry for which it is difficult to identify the output, technological change, and productivity increase. The variable identification and selection process for DEA implementation purposes in the banking sector is still developing. This can be observed from the above-mentioned studies. The process of variable selection- inputs and outputs- is a very important part of performance evaluation. There are three main approaches for this purpose in the banking sector. First, the asset approach, known also as the intermediation approach (Humphrey, 1985), the value-added approach known also as the production approach and user cost approach. Each of the above approaches is based on the traditional micro economy theory in the banking sector. Their difference consists of the way the banking activities are defined (Kumar, Gulati, 2014).

Methodology and Data

The study consists on applying an integrated approach which considers banks as operating in all of three DEA approaches, since we cannot state which of them ofers the final best approach. The banking system in Albania until 2016 was comprised of 16 banks two of which are Islamic and are excluded from the analysis. The rest are commercial banks mostly foreign ownership: Alpha Bank Albania, National Commercial Bank (BKT), Credins Bank, Credit Agricole Albania, First Investment Bank, International Commercial Bank (BNT), National Bank of Greece (NBG), Tirana Bank, Procredit Bank, Raiffeisen Bank Albania, Societe Generale Albania, Veneto Bank, Intesa San Paolo (ISP) and Union Bank. The analyzed banks are classified in four groups according to their asset size.

BKT and Raiffeisen Bank are the largest banks in the country with Turkish and Austrian ownership respectively which are allocated in the first group, the second group in size may be Alpha Bank, Tirana Bank, Credins Bank and Intesa SanPaolo Bank with Greek ownership (the first two), Albanian and Italian ownership the last. While in the third group we can include Credit Agricole Bank, Societe Generale Bank with French ownership, Procredit Bank with German ownership and NBG with Greek ownership. The last group represents the smallest size banks like First Investment Bank, BNT, Veneto and Union Bank.

After 2016 there were structural changes in the number of banks respectively, ISP Bank bought Veneto Bank and Societe Generale Albania was bought by OTP the largest Hungarian bank. In this context there will be 12 banks under analysis.

As we stated before according to literature review we found that either of approaches for variable selection purposes does not include the entire activity of a bank. In accordance with the previews study which was performed till 2015, we agreed to include two intermediation approaches and one production approach for variable selection purposes as listed below:

Variable selection for DEA approaches **Table 1:**

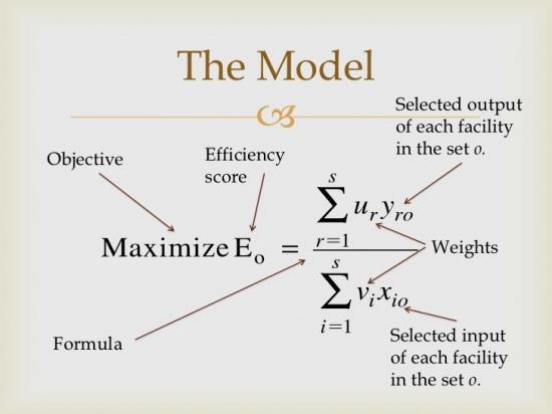
Approaches used	Inputs	Outputs
Production approach	-bank branches -number of employees -equity capital	-deposit amount
Intermediation approach 1	-number of employees -equity capital -deposits	-total loans -investments in securities
Intermediation approach 2	-deposits -total expenses	-total loans -total revenues

Source: Author

The reason why we cannot use one model with multiple different variables is due to the constraint that the number of variables (inputs and outputs), must fulfill the constraint requirement that the number of variables for each approach must be at a maximum of i/3 of the sample (3 +1 ≤ 14 x 1/3).

DEA is a non-parametric approach which enables in our case, bank efficiency evaluation of a single unit known as the Decision-Making Unit (DMU) the bank, which can transform multiple inputs to multiple outputs (Cooper, Seiford, Zhu, 2004). Through DEA we can evaluate different concepts of efficiency known as technical efficiency, pure technical efficiency, allocative efficiency, cost efficiency, productive efficiency, etc.

This model is known as the primary DEA model. We can evaluate which DMU, in a group of n DMUs, where each of them uses m inputs and produces s outputs, are efficient relating to the relative efficiency. There is a wide range of DEA models relating to the key features regarding orientation (input minimization or output maximization), returns to scale (constant returns to scale or variable returns to scale), typology of variables and kinds of DEA models.


The Model
Selected output of each facility in the set o.
Objective
Efficiency score
Maximize E_o = $\frac{\sum_{r=1}^{s} u_r y_{ro}}{\sum_{i=1}^{s} v_i x_{io}}$
Weights
Formula
Selected input of each facility in the set o.

The basic, primary DEA model: Figure 1:

The main advantages why DEA is used in banking sector as well refers to its key features as listed below:

- It is not necessary to set the mathematical form of the production function.
- Is well verified that DEA can explore the relationship between variables that cannot be explored with other tools.
- Is allowed to use different inputs and outputs.
- Is allowed to use variables measured in various measures, absolute values, percentages, ratios etc.
- Through DEA we can evaluate the efficiency of DMU identifying the source of inefficiency for each unit.
- It can be used even in small samples.

There is always the expression “but”. DEA has some restrictions listed as below:

- the results are mainly fragile due to the process of variable selection.
- The results cannot be statistically tested. Lately, there are some attempts to combine with other tools.
- The number of variables selected is restricted due to the size of the sample.

The analysis was performed through the online software DEAOS, for 11 banks 2018-2021, under two assumptions: CRS and VRS. The first one explains if there is a proportional increase in outputs due to the same proportionate increase in inputs, while the second assumption

variable returns to scale explains if there is a higher rate of increase in outputs when the inputs increase proportionally. Since the outputs selected represent the main activity of commercial banks, we have selected the basic output maximization approach.

Under normalized data set, we can compare the banks from 2006-2021. The banks operate in different efficiency levels that's the reason why we employed both CRS and VRS options. The efficiency scores are calculated for each year, identifying the peer group which efficiency scores are 1 relative the 12 banks. Through this evaluation we can identify banks that have efficiency scores less than 1 and at the same time the source of the lack of efficiency. There are calculated the mathematical average efficiency score for each of the banks and the average efficiency score per year of the entire system comprised of 12 banks after 2015 to 2021.

Results

After analyzing our data, until 2015, we found the efficiency scores of the 14 banks analyzed. The only full efficient bank from 2006-2015 seems to be BISP. If we refer to the same group where BISP is classified, it has better performed than BA, BK and BT. The last three also have distinguished differences since BA is an efficient DMU for three of eight years, followed by BK one of eight, and the last one BT which has never performed at full efficiency. The first group seems to have differences too. BKT and RB are the largest banks in the system so it is expected also to be full efficient banks. As we can see, BKT had a decrease in 2011 but for the rest is efficient, while BR was efficient at half of the period. The largest decline in efficiency is observed in 2009. Since it is a very large bank, BR has significantly a large impact in the system's efficiency. Among the small size banks, the one that improved its efficiency rapidly is BU which in 2013 is full efficient and BPI which has improved its position in the last years.

Table 2:

Technical efficiency scores under CRS-Output maximisation

Bank acronym	`06	`07	`08	`09	`10	`11	`12	`13	`14	`15	`16	`17	`18	`19	`20	`21
BA	1.00	1.00	0.95	0.77	0.65	1.00	0.84	0.82	0.80	0.63	0.58	0.59	0.52	0.64	0.61	0.54
BKT	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	1.00	1.00	0.98	1.00	1.00	0.98	0.97	0.98
BK	0.61	0.95	0.88	0.94	1.00	0.74	0.86	0.91	1.00	1.00	1.00	1.00	1.00	0.98	0.97	0.99
BCA/ ABI*	0.32	0.29	0.27	0.28	0.32	0.28	0.36	0.42	0.48	0.70	0.72*	0.72	0.78	0.72	0.63	0.65
BPI	0.12	0.07	0.16	0.31	0.49	0.43	0.94	1.00	0.88	0.71	0.72	0.73	0.77	0.72	0.63	0.80
BSG/ OTP*	0.87	0.53	0.71	0.62	0.72	0.69	0.77	0.75	0.79	0.77	0.68	0.77	0.78	0.82*	0.80	0.84
BP	0.57	0.62	0.55	0.53	0.71	0.43	0.70	0.63	0.57	0.55	0.55	0.58	0.55	0.68	0.58	0.69
BR	1.00	0.91	1.00	0.89	0.97	1.00	1.00	0.90	0.92	0.93	0.95	0.92	0.97	0.98	0.92	0.94
BT	0.68	0.57	0.58	0.64	0.76	0.75	0.79	0.78	0.82	0.75	0.77	0.75	0.76	0.78	0.68	0.75
BKG	0.39	0.45	0.40	0.39	0.52	0.59	0.61	0.62	0.57	0.43	0.42	0.38	-	-	-	-
BNT	0.26	0.33	0.28	0.37	0.37	0.39	0.45	0.43	0.42	0.45	0.45	0.39	0.32	-	-	-
BISP	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.98	0.98	1.00
BV	0.18	0.22	0.29	0.27	0.49	0.48	0.56	0.63	0.79	0.80	0.79	0.68	-	-	-	-
BU	0.14	0.24	0.62	0.54	0.75	0.41	1.00	0.99	0.99	0.87	0.98	0.99	1.00	0.98	0.95	0.99
Aveg	***0.58***	***0.58***	***0.62***	***0.61***	***0.70***	***0.65***	***0.78***	***0.78***	***0.79***	***0.76***	***0.76***	***0.75***	***0.79***	***0.84***	***0.79***	***0.83***

Source: Author

On the other hand, the rest of the banks has never been full efficient, and their efficiency scores are less than the annual average. So, if we rank the banks for the entire period according to their average scores, BISP is followed by BKT, BR, BA, BK, BSG, BT, BP, BU, BKG, BPI, BV, BNT, BCA.
Large size banks are more efficient than small size ones since the five first ranked are banks from the first and the second group. Relating to ownership of capital, there is not a clear result since Greek banks seem to be in the top five like BA, in the seventh rank like BT and tenth rank like BKG. So differences in average efficiency may be due to the size, industry focus and practices from banks.
Another point of view of the CRS model, which is as important as the one described above, is the average annual efficiency score for the entire system. The annual average presented above, for each of the eight years, is not at optimal levels. It shows a slight improvement in time, from 0.58 in 2006 to 0.77 in 2013. The efficiency frontier is made up of four banks in 2006 (BA, BKT, BR, BISP) and 2012(BKT, BR, BISP,BU), while for the rest of the period the number is smaller. It is interesting that among the largest full efficient in 2012 is at the same frontier one of the smallest size banks, BU. Even there are efficient banks in either of the years, the number of efficient banks is smaller compared to the inefficient ones. So, it must be considered the entire system performance, focusing on non-performing banks which would need more attention from stakeholders. From 2018 and till now the number of banks decreased because of mergers and acquisitions. There were observed a light increase in the average efficiency, but at the same time in the COVID-19 period due the restrictions of operational activities there were no fully efficient bank, even the largest ones.

The second model chosen for bank efficiency analyze for the same period and data set is the VRS model –output oriented. The efficiency scores are higher under VRS compared to CRS. On average for the entire period, there are three full three efficient banks: BR, BISP (the same as under CRS), and BV followed by BKT, BNT, BA, BK, BPI, BSG, BU, BT, BP, BKG, and BCA.

Table 4

Pure Technical efficiency scores under VRS-Output maximisation

	`06	`07	`08	`09	`10	`11	`12	`13	`14	`15	`16	`17	`18	`19	`20	`21
BA	1.00	1.00	1.00	0.80	1.00	1.00	0.88	0.85	0.83	0.65	0.63	0.63	0.63	0.62	0.58	0.52
BKT	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99	0.99	1.00
BK	0.61	1.00	1.00	1.00	1.00	0.75	0.86	0.92	1.00	1.00	0.92	0.95	0.98	0.97	0.97	1.00
BCA/ ABI	0.44	0.35	0.32	0.33	0.37	0.31	0.41	0.44	0.53	0.87	0.44*	0.45	0.43	0.40	0.45	0.46
BPI	0.28	0.25	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.85	0.86	0.88	0.72	0.70	0.75
BSG /OTP*	1.00	0.54	0.78	0.68	0.79	0.72	0.86	0.79	0.83	0.82	0.78	0.76	0.78	0.75*	0.78	0.82
BP	0.72	0.64	0.60	0.55	0.72	0.43	0.70	0.67	0.58	0.63	0.62	0.65	0.67	0.58	0.59	0.64
BR	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.99	0.95	0.97	0.95	0.98	1.00
BT	0.72	0.61	0.58	0.64	0.76	0.77	0.81	0.80	0.83	0.77	0.73	0.75	0.78	0.72	0.74	0.80
BKG	0.49	0.50	0.46	0.42	0.56	0.67	0.69	0.69	0.62	0.46	0.56	0.50	-	-	-	-
BNT	0.63	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.96	0.80	0.82	-	-	-
BISP	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.98	1.00	1.00
BV	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	-	-	-	-
BU	0.37	0.37	1.00	0.92	0.90	0.45	1.00	1.00	1.00	1.00	0.80	0.82	0.88	0.80	0.89	0.95
FM	**0.73**	**0.73**	**0.83**	**0.81**	**0.86**	**0.79**	**0.87**	**0.86**	**0.87**	**0.86**	**0.79**	**0.79**	**0.81**	**0.77**	**0.78**	**0.81**

Source: Author

The most stable bank is BISP since it is fully efficient throughout the entire period. On the other hand, Raiffeisen Bank was a benchmark to 8 of 14 banks in 2006, which means that 8 inefficient banks could be able to reach Raiffeisen Bank standards at that time. After 2006, this bank cannot be a benchmark to a large number of banks, diminishing from 8 to 2 and 1 till 2013, which means that it expanded efficiently its activity larger than other banks in the group analyzed, that's why its results can be reachable only from one bank (Tirana Bank). The same things almost can be stated for ISP and BKT while they seem to be more stable relating to reference set.
There was observed a decrease of the efficiency scores during the COVID-19 period. The expected scores are lower than the evaluated ones. Due to the government support during pandemic 2019, the banks managed to maintain their position. Also some banks showed previously decreasing scores, that were followed by mergers and acquisition like that of BSG, bought by OTP Hungaria etc.

Conclusions

In this study we tried to give an overview of bank efficiency in Albania for a period of 15 years. The analysis is divided in two dimensions; output maximization from returns to scale perspective and pre /post Covid-19.

From the results observed we conclude that efficient banks are from different size; the first group banks are efficient all the time except BKT in 2011 with light decline in 98.8%; the second group banks have much differences since Tirana Bank has never operated efficiently while Intesa San Paolo Bank was always efficient, so their difference may be affected from the country's origin of capital in this case Greece; also in the third group French banks are inefficient followed by the fourth group while the last one seems to have differences too. Veneto Bank is efficient at all the time, followed by First Investment and Union. Due to the differences found in the banks analyzed the interested parties should go further or deeper analysis of the banks itself, analyzing the individual bank branch efficiency. This may generate more accurate and interesting results.

Second, there were observed differences from the returns to scale efficiency score. Big banks show higher scores due to economies of scale and economies of scope. Albanian owned banks like BK and BU showed a higher score after 2016. This was caused mainly by expanding the network by acquisitions that followed that period.

The banking system supported by government during pandemic Covid-19, showed lower NPL ratios the last five years. From 2012 to 2021, the rate decreased to one digit ratio reaching 5.08% in 2021 (Bank of Albania).

This paper is going to be developed further on, exploring the bank specific factors that influence efficiency measured by DEA. Since banks operating in Albania are publishing their estimate ratios of capital adequacy, liquidity ratios etc, it may be an interesting point of view to investigate if there is a relationship between regulatory requirement indicators to efficiency scores. A huge interest may be to expand this objective in Western Balkan Countries.

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INVESTIGATING THE DIVIDEND POLICY DETERMINANTS USING A POISSON REGRESSION

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Abstract: *Using a sample of 4815 companies operating in various sectors of activity in EU countries, we investigate the firm-related factors influencing the frequency of dividend payments. Using a Poisson regression, we bring strong empirical evidence that the frequency of dividends payouts is influenced by the size of the firm, its profitability, indebtness and ownership structure. Furthermore, we find inconclusive results relating the frequency of the dividend payouts to the liquidity of the firm. When accounting for overdispersion problems via a Zero-Inflated Poisson (ZIP), the coefficients remain stable as sing and statistical significance, but their impact is diminished.*

Keywords: *Dividend policy, Poisson regression, Overdispersion.*

JEL classification: *C14, G35*

Introduction

Dividend policy is a controversial topic in the financial literature. It determines how much money a shareholder will receive from the firm's profit and when. The economic agents often focus on dividend payouts to assess the financial success of a firm, to choose whtear or not to buy its shares etc. Against this background, it is of interest to study the factors influencing the dividend policy.

The literature investigating the determinants of dividend payouts identified a series of firm-related factors such as Size, Profitability, Liquidity, and Board characteristics as major drivers for the amount of cash paid to the shareholders (**Ye et al., 2019; Wu et al., 2020**). Furthermore, to account for the impact induced by all these firm-related factors, a wide range of econometric methods were used, such as Panel Fixed Effects (**Miller et al., 2022**), LOGIT regression (**Beladi et al., 2022**), or TOBIT regression (**Ding et al., 2020**).

In this paper, we contribute to literature by investigating the frequency of dividend payouts in EU27 countries based on a Poisson regression. Up to our knowledge, this is the first attempt devoted to quantify the influence factors of dividends frequency, rather than propensity to pay dividends of their levels.

The remainder of the paper is structured as follows. Section 2 presents the data and the econometric approach; Section 3 is summarizing the results while Section 4 concludes the paper.

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Methodology

Using a sample of 4815 companies operating in various sectors of activity in EU countries, we investigate the firm-related factors influencing the frequency of dividend payments. The dividend represents a part of the net profit of a company, which belongs to every shareholder conditioned by the number of shares he/she owns. The dependent variable is represented by the number of years in which the contempt company has not paid dividends in the period 2012 - 2020. If the value of this variable is zero, then it means that they have paid dividends to shareholders in all nine years, and if it is eight, it means that only in one year or made such payments. Firms that did not pay dividends were excluded from the sample. All the explanatory variables such as Size, Indebtedness, Profitability, Liquidity, R&D expenditures, and Ownership structure, along with dividend information, are extracted from ORBIS database.

To study the frequency of dividend payments, which is a count variable, the most common approach is the Poisson regression. However, as we can see in Figure 1, the distribution of the dependent variables is highly asymmetrical (zero-inflated) so using a ZIP regression will be a better fit.

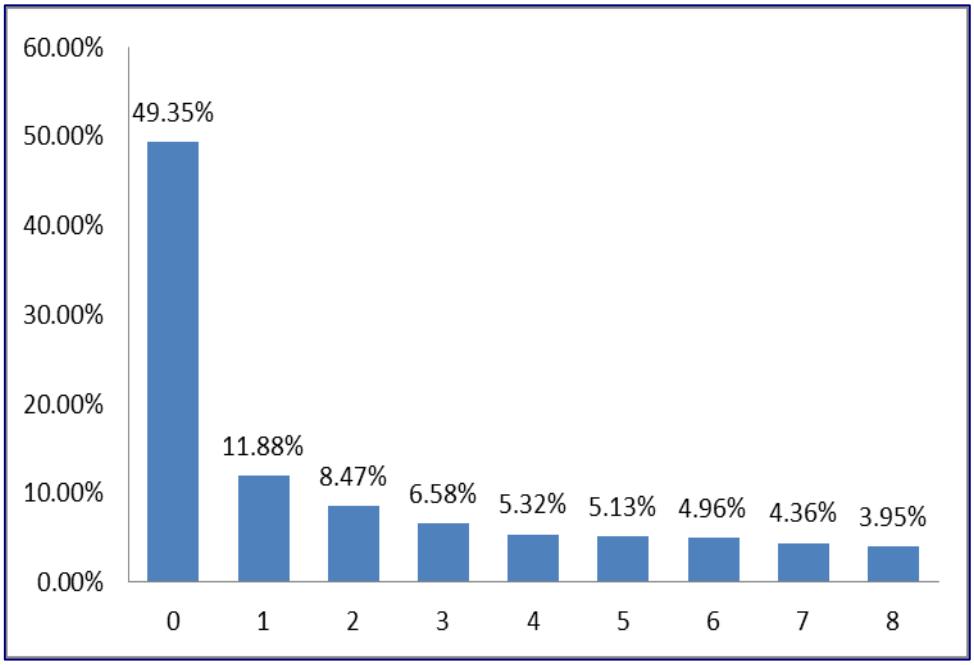

Figure 1 – No. of years without dividend payments during 2012-2020

Source: own processing

The Poisson distribution measures the probability that a certain number of events occur in a certain period of time. The discrete random variable X follows a Poisson distribution conditioned by the parameter λ if it has the following form:

$$f(x) = \begin{cases} e^{-\lambda}\frac{\lambda^x}{x!}, \ x \in N, \ \lambda > 0 \\ 0, \ otherwise \end{cases} \quad (1)$$

The shape of the Poisson distribution depends on the values of the parameter λ (See Figure 2), which is the mean, but also the variance of the distribution, i.e., E [X] = Var [X] = λ.

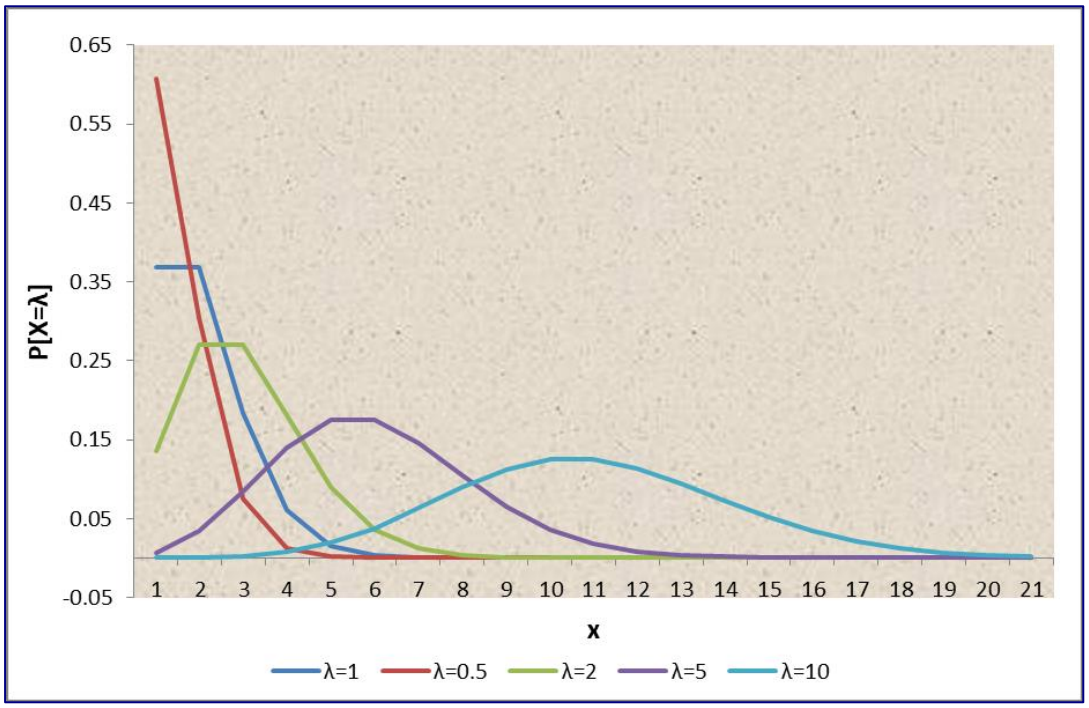

Figure 2 – PFD of Poisson distribution

Source: own processing

Let us assume that we select *k* explanatory variables, $(X_1, X_2, \ldots, X_k)$ for a sample of size *n*. For the observation $i \in \{1, 2, \ldots, n\}$ there exists the associated $x_i = (x_{1i}, x_{2i}, \ldots, x_{ki})$ and y_i, which belong to a population with a Poisson distribution with mean λ_i. So the dependent variable $Y = (y_1, y_2, \ldots, y_n)$ is the realization of independent random variables that follow a Poisson distribution. The Poisson regression specification relates the parameter λ_i to the realizations of the independent variables, $x_i = (x_{1i}, x_{2i}, \ldots, x_{ki})$:

$$\log(\lambda_i) = \beta_1 x_{i1} + \cdots + \beta_k x_{ik} \tag{2}$$

The coeffcients$\beta = (\beta 1, \ldots, \beta k)$ of size $(k \times 1)$ are estimated using the maximum likelihood method. However, when we deal with zero-inflated data, the standard Poisson coefficients are affected by overdispersion i.e., the variance value is greater than the mean value (**Cameron and Trivedi, 1990**). The ZIP Regression corrects this problem by following the steps below:

i) Based on a LOGIT type model, the probability of granting dividends θ_i is estimated using the set of covariates $(Z_1, Z_2, \ldots, Z_p)$ which can be different from $(X_1, X_2, \ldots, X_k)$, but also identical.

ii) The ZIP distribution will be specified on the basis of the new observations:

$$P(Y_i = y_i) = \begin{cases} \theta_i(z_i) + \big(1 - \theta_i(z_i)\big)e^{-\lambda_i}, y_i = 0 \\ \big(1 - \theta_i(z_i)\big)\dfrac{\lambda_i \ e^{-\lambda_i}}{y_i!}, y_i > 0 \end{cases} \tag{3}$$

The coefficients of the ZIP regression are estimated, similar to the ones of Poisson regression using the MLE approach, via the Newton-Raphson algorithm, as suggested by **Jansakul and Hinde (2002)**.

Results

In Table 1 we present the coefficients estimated using a Poisson regression. In Models 1-6 we include each covariate individually, while Model 7 presents the extended model results.

Table 1

Poisson regression estimates (p-values in parentheses)

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Size	-0.2255 (0.0000)						-0.2334 (0.0000)
Indebtedness		0.3959 (0.0000)					1.4223 (0.0000)
Profitability			-1.4457 (0.0000)				-1.2584 (0.0000)
Liquidity				0.0033 (0.5400)			-0.0177 (0.0005)
R&D expenditures					-0.0726 (0.0000)		-0.0231 (0.0000)
Ownership structure						1.5375 (0.0000)	1.4790 (0.0000)
Intercept	3.4704 (0.0000)	0.5790 (0.0000)	0.7709 (0.0000)	0.6252 (0.0000)	0.6905 (0.0000)	0.1047 (0.0000)	3.0525 (0.0000)
Pseudo R-squared	0.0702	0.0009	0.0365	0.0001	0.0096	0.0400	0.1514
AIC	21540	23144	22320	23166	22944	22240	19670
Observations	4815	4815	4815	4815	4815	4815	4815

Source: own calculation

Except for liquidity, all the coeffcints retain their signs and statistical significance, regardless of the specification of the model. According to R-squared (which must be as large as possible) and AIC (which must be as small as possible), the size of the firm is the most influential factor when it comes to dividend policy. Thus, if the size of the firm increases with 1 unit, the number of years when the firm decides not to pay dividend decreases on average with $1-e^{-0.2255}=18.63\%$. In addition, we report a positive association between Indebtedness and dividend frequency, indicating that high-indebtness firms are likely to reduce the dividends frequency. Furthermore, in line with the empirical literature (**Miller et al., 2022**), we report a negative relationship between the profitability of the firm proxied by ROA (return on assets) and the number of years without dividend payments that is, a positive link between ROA and the number of years with dividend payments.

We fail to report any robust evidence relating the liquidity of a form to dividend policy. Although in Model 7 the coefficient is statistically significant, in Model 4 it is not, and the value

of R-square is at the highest level compared to the other specifications. Similarly, the AIC it is at the lowest level compared to the other specifications. Finally, we report a positive relationship between the ownership structure and the frequency of dividend payments. This suggests that a more diluted ownership is more likely to grant dividends more often.

One of the characteristics of the Poisson distribution is that the mean is equal to the variance. Often, this restriction is not valid when we use real and not simulated data, thus appearing the phenomenon of overdispersion. Under these conditions, the standard errors related to a Poisson-type model are quite small and implicitly they can erroneously generate estimates that are statistically significant as shown by **Roback and Legler (2021)**. Normally, if there is no overdispersion phenomenon, then the residuals must follow a uniform distribution. As we can see in Figure 3, there are significant differences between the residual generated by Model 7 and the ones simulated from a uniform distribution, so we can conclude that overdispersion affects the estimates.

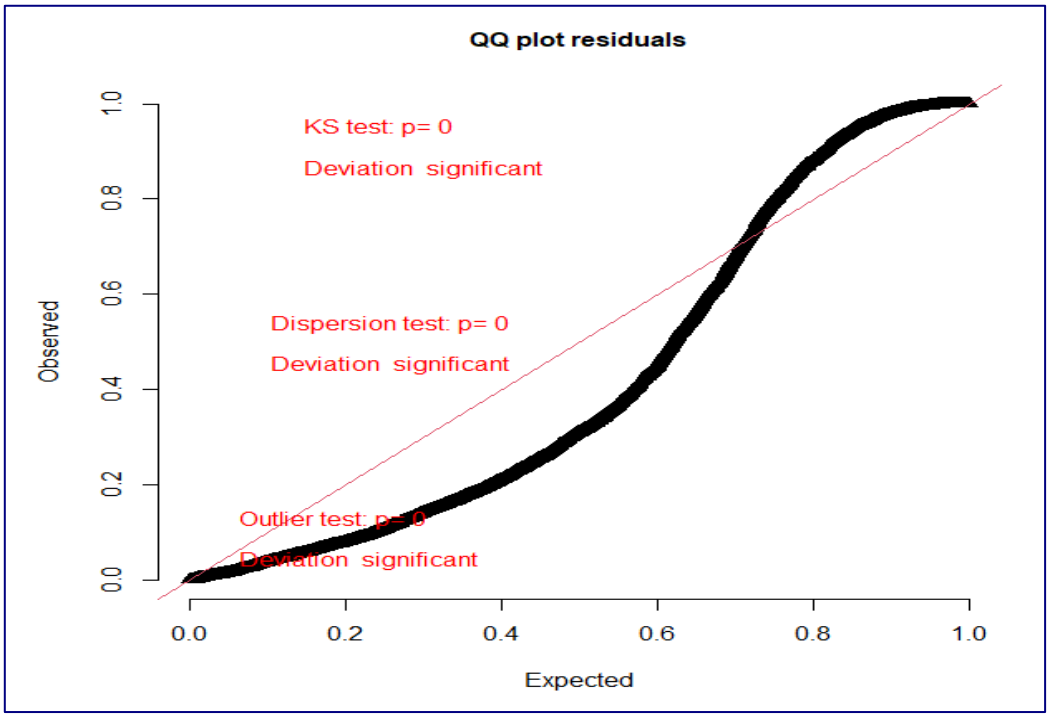

Figure 3 – Overdispersion test

Source: own processing

Thus, we check the validity of the estimates reported by Model 7 using a ZIP regression.

Table 2

ZIP regression estimates

Variables	Coefficients	P-values
Size	-0.1202	0.0000
Indebtedness	0.5683	0.0000
Profitability	-0.8258	0.0000
Liquidity	-0.0004	0.9410
R&D expenditures	-0.0030	0.5111

CEO structure	0.6371	0.0000
Intercept	2.4540	0.000
AIC	19237	

Source: own calculation

The results reported in Table 2 indicate that all the coefficients remain stable, except for R&D expenditures. However, the standard Poisson regression, which does not account for overdispersion, is overestimating their impact. Indeed, if the size of the firm increases with 1 unit, the number of years when the firm choose not to pay dividend decreases on average with $1-e^{-0.1202}=11.33\%$. In terms of AIC, the ZIP regression is superior to standard Poisson regression.

Conclusions

In this paper, we extract from ORBIS Bureau van Dijk database a sample of 4815 companies operating in various sectors of activity in EU countries to study the firm-related factors influencing the frequency of dividend payments. The Poisson regression coefficients indicate that the frequency of dividends payouts is influenced by the size of the firm, its profitability, indebtness, and ownership structure. Additionally, we find inconclusive results relating the frequency of the dividend payouts to the liquidity of the firm. When accounting for overdispersion problems via a ZIP regression, the coefficients remain stable as sing and statistical significance, but their impact is diminished. The conclusions of the paper might be interesting for traders when shaping their strategies on stock exchanges in order to maxime their profitability on longer time horizons.

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REVIEW OF FINANCIAL LITERACY EDUCATION PROGRAMS IN ROMANIA

Tudor CIUMARA [27]

Abstract:

In this systematic review of financial literacy education programs in Romania we assess their continuity, consistency and importance. They key characteristics of such programs are analyzed based on complexity, age and size of target audience. We find that financial literacy programs in Romania tend to be recent and generally have low complexity and small target audiences. The findings may be useful for designing more effective financial education programs and developing future research on the topic.

Keywords: *financial literacy, education initiatives, financial education*

JEL classification: *A20, G50, I21*

Introduction

Financial literacy and financial education represent important topics for the adequate functioning of the financial system. Without a proper understanding of at least the basic notions of finance, people cannot properly take care of their financial affairs. They may use inadequate financial products and services or they may use the proper ones but in an inadequate manner, leading to financial loss and a long-term decrease in their financial well-being. In this framework, the issue of financial literacy and financial education has been discussed extensively. In Romania we can mention numerous instances in which the lack of financial education let to significant social problems. We can also observe the proliferation of educational resources, with little research focused on them.

Description of the Problem

As we mentioned, research on financial literacy and financial education is abundant at international level. Specifically related to the topic of this paper, we find that the importance of proper design of financial education programs was advocated by Fox et al (2005). Also, there are indications in the literature that financial performance of individuals can be improved by education programs (Lusardi, 2008), even if there are ample opportunities to improve such programs. In a later study, Lusardi et al. (2020) point out that the efficiency of financial education programs varies among different population segments and for some segments acquiring financial knowledge is too costly and not beneficial. We can also take note of the findings of Fernandez et al. (2014), who discuss the importance of just-in-time financial education as a countermeasure for the process of knowledge decay over time.

A comprehensive study on financial literacy education studies for youth was conducted by Amagir et al. (2018), which points to the short-term perspective of related studies and note that insufficient data is collected regarding the actual financial behavior of youths. A similar

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conclusion, that understanding the long-term impact of education programs is missing is drawn by Hathaway and Khatiwada (2008).

We can observe, therefore, that previous research evidenced the necessity of proper design for education programs and long-term observation of their results. While such an endeavor is beyond the purpose of this paper, we attempt to structure the date on current Romanian financial education programs in a simple manner. This way we can clarify if local initiatives appear to be substantial enough to pursue a significant increase in financial literacy of the population.

Methodology and Data

In order to achieve the stated objective, we made an analysis of the initiatives regarding financial education in Romania today. The analysis was performed online, taking into account initiatives with an online presence. We evaluated all active programs we identified, grouping them by target audience and year of inception.

We found the existence of 48 programs or initiatives directly aimed at increasing the level of financial education of people in Romania. We noticed that 18 of these (38% of the total) are private initiatives whose main target group is children and young people and 24 of these (50% of the total) are private initiatives whose main target group is adults. Notably, 54% of these (or 27% of the total) are initiatives by financial institutions. We also identified only 6 public initiatives (13% of the total), 3 of them targeting young people and 3 targeting adults.

The next stage of the analysis consisted in assessing the age of the initiatives. We found that 56% of these are 3 years or less and 75% are 5 years or less. We could identify only 3 (6% of the total) initiatives that are 10 years old or more.

Subsequently we made a qualitative assessment of the educational initiatives. In order to evaluate the impact of the analyzed initiatives an impact score was calculated, based on several relevant factors, such as the complexity of the initiative, it's age and the size of the target audience. Each analyzed initiative received a score on each of these criteria, with grades from 1 to 5.

Results

The results indicated an unbalanced origin of the programs, the private initiatives vastly exceeding public ones.

In Figure 1 below, we have represented the 18 private initiatives aimed at young people, depending on the year they were started. We can observe that none of them has more than 5 years since it was launched and half of them appeared since 2020. These initiatives tend to be courses offered by individual kindergartens or schools or various online courses. Generally, they focus on small groups of children. Considering the fact that those initiatives which are not exclusively online are mainly related to institutions in Bucharest or some other cities, we can see that there is a notable geographical unbalance in the supply of these programs. Children from rural areas could only have access to online courses.

Also, we observed that the description of these initiatives was generally rather basic, in many cases unchanged since the initial setup of the program.

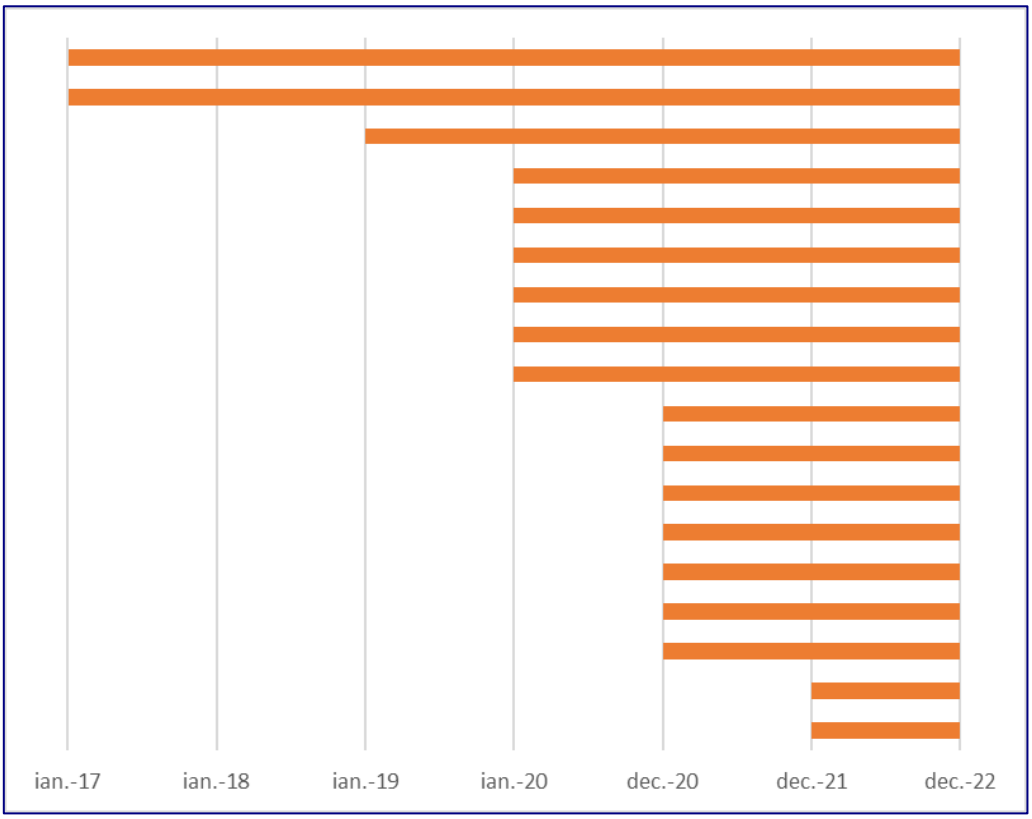

Figure 1 – Private initiatives targeting young people

Source: author's research

In the figure below, we have represented the 24 private initiatives aimed at adults, depending on the year of their start. The top group of initiatives was developed by financial institutions (mainly banks, but also insurance companies, brokers and others). We notice that these groups of programs had a longer lifespan. We can even observe one program that appears to have been initiated as a result of the financial crisis of 2008.

Comparing private initiatives targeting mainly adults to those targeting mainly children we note the longer lifespan of the courses and the interest manifested by financial institutions to providing this type of education. This makes sense, since adults represent the client target group of these institutions as well. Increasing the financial literacy of their clients may lead to a better use of financial instruments and increased financial wealth, leading to a more active use of financial services. An assessment should be made, however, to understand if the trainings provided by these institutions have a sufficient educational component or merely represent a marketing instrument for their own products and services.

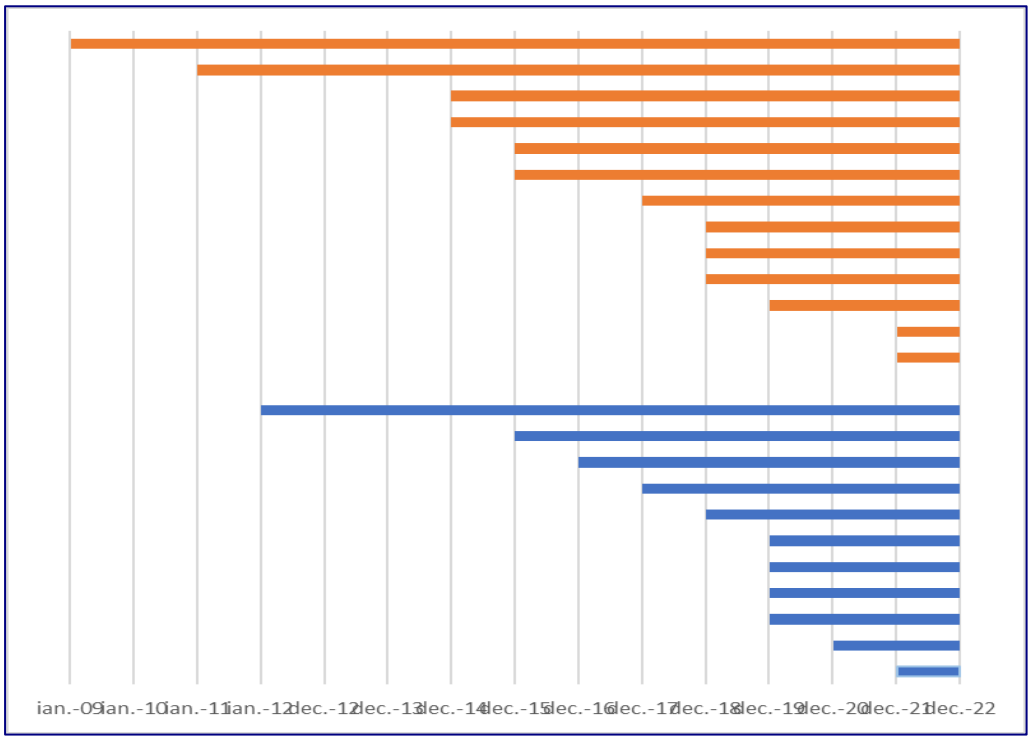

Figure 2 – Private initiatives targeting adults (initiatives of financial institutions marked with orange)

Source: author's research

In the figure below, we have represented the 6 public initiatives identified, depending on the year of their start. This group of initiatives is significantly smaller than the rest but we can notice that their lifespan is longer than the one of the private initiatives aimed at children (and smaller than the one aimed at adults). If we make a more in-depth analysis of these initiatives, we observe that they are significantly more complex than the other groups. They include various written and video support materials and numerous local events. This also means that their target audience is significantly larger than the one of the private initiatives.

One thing that was noticeable was that information regarding the status of public initiatives was not as frequently updated, making it more difficult to understand if they were still active or not.

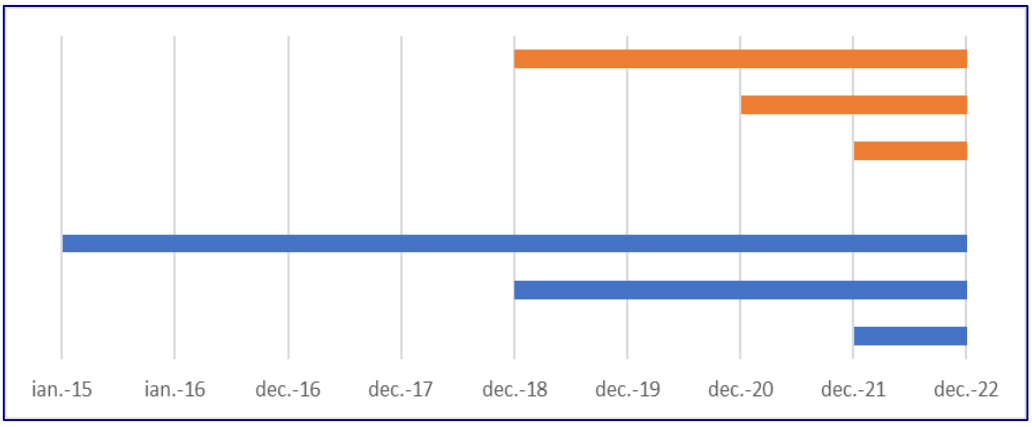

Figure 3 – Public initiatives targeting young people (orange) and adults (blue)

Source: author's research

In the figure below, we have highlighted the evolution of the age of the identified educational initiatives, taking into account the start year of the active initiatives in October 2022. From the 48 initiatives active in 2022, 43 were active in 2021, 33 were active in 2020 and so on.

It becomes clear that most initiatives are very recent, more than half of them being developed in the past 3 years. We can relate this to the impact of the COVID-19 pandemic, which led to the development of a large number of online training programs, as a result of business seeking opportunities by professionals whose activities were negatively during the pandemic.

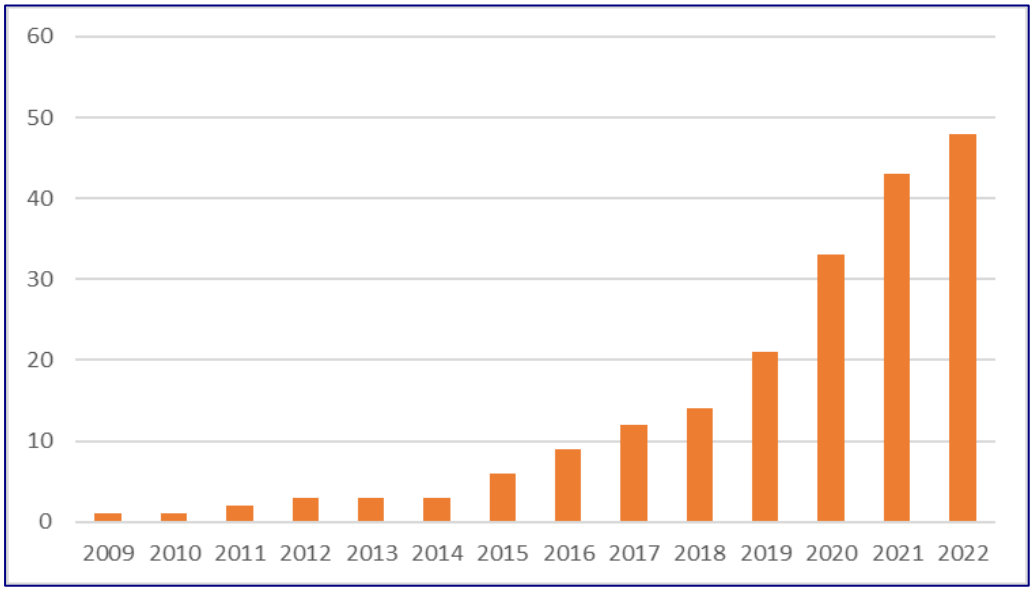

Figure 4 – Age of educational initiatives

Source: author's research

We wanted to make sense of this corpus of initiatives and better understand them based on quality indicators, not just quantitative ones. It was beyond the scope of this paper to make an in-depth analysis of each initiative but, in order to evaluate the impact of the analyzed initiatives we calculated an impact score, based on several relevant elements: the complexity of the initiative, its age and the size of the target audience. Each analyzed initiative received a score on each of these criteria, with grades from 1 to 5. The resulting impact score is shown in the following table.

Table 1

Scoring of the financial education initiatives

Type of initiative	Score			Score
	Complexity	Size of target audience	Age of initiative	
Private educational initiatives for young people	2,33	2,28	1,17	1,93
Private educational initiatives for adults	2,21	2,29	2,13	2,21
Initiatives of financial institutions	2,54	2,77	2,46	2,59
Public educational initiatives for young people	3,33	3,67	2,00	3,00
Public educational initiatives for adults	5,00	5,00	1,33	3,78
General	2,50	2,54	1,71	2,25

Source: author's research

We can see that the lowest overall scores are for private initiative groups (the most numerous, by the way). A special observation can be made for the initiatives of financial institutions, which are significantly more consistent than the other private initiatives. We find that the public initiatives aimed at adults obtained the highest impact score even if they are the least numerous. Analyzing the elements that led to the calculation of these scores, we notice that the age of the initiatives attracts the lowest scores. Most of the private initiatives have appeared in the last three years, many of them probably being the result of changes in the online course market in a pandemic context.

Conclusions

In this paper we found that a useful approach was to analyze financial education programs based on the public-private distinction. We assume public initiatives are designed based on public strategies and policies, with objectives related to social development, while private initiatives may have more often profit related objectives.

We observed that financial institutions play an important role in offering financial education, mainly to adults. This can be seen as a process of “education the clients”, endeavor beneficial for the long-term business objectives of the institutions. Also, we establish that public initiatives have the greatest complexity and reach.

One thing that remains unsolved relates to the fact that little is known about the impact of such educational programs, particularly in the long-term.

Future Directions

This study opens the way to a more in-depth analysis of the results financial education programs achieve in Romania. An accurate account of the participants in these studies would be essential in studying the long-term effects of these studies. This, in turn, would provide an overview of the design characteristics that generate lasting benefits for the program participants.

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FINANCIAL DIGITALIZATION FOR CONSUMERS, COMPANIES AND FINANCIAL INSTITUTIONS – KEY TRANSFORMATIONS

Tudor CIUMARA[28]

Abstract:

In this paper we explore the most important changes that financial digitalization imposes on the activity of individuals, companies and financial institutions. We evaluate these changes through the lens of financial literacy and education, in order to draw conclusions regarding the importance of financial education during the digitalization of the economy. Key transformation factors are identified and presented in a structured manner, in order to facilitate future research. This paper builds on existing research in the field and also contributes to the relevant literature with a fresh perspective on current financial transformations.

Keywords: *digitalization, financial literacy, financial education*

JEL classification: *D14, G50, O33*

Introduction

The link between the financial system and technology is not recent. However, the unprecedented development of information technology leads to a very powerful merger. The digitalized trajectory of the financial system promises to reveal numerous opportunities and also important risks and threats.

Technology has changed the financial system and the way people and businesses interact with it. There is a lot of talk about how technological changes have brought the financial system closer to many people who did not have access to it before. However, this is only one facet of the change. It is easy to see how it has fundamentally changed and how other users interact with actors in the financial system. Technology has had a dual impact on the financial system: on the one hand it has transformed segments of the financial system through the digitalization process and on the other hand it has created new segments (Ciumara, 2020). This is a trend that promises to last long into the future, being therefore an important study area.

As already mentioned, technology brings the financial system closer to people. In recent years, smart phones have played a very important role in this regard. The increase in financial inclusion has obvious positive effects, but it also raises some problems for which adequate solutions must be found: digitization implies that more and more people with little financial education become beneficiaries of financial services, but they do not have the necessary knowledge to protect themselves from risks associated cybernetics.

The direction towards which the financial system is heading in the context of technological changes is relatively clear. We don't know exactly how the financial landscape will change in the next 5 or 10 years, but we know the main coordinates. The pandemic that appeared in

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2020 contributed to accentuating the digitization process and enhancing the conditions favoring the development of FinTech, making people go through a process of "forced digitization". Probably, many investors have redirected their funds from "brick and mortar" investments to investments based on digitized solutions. We will see in the coming years what the exact consequences of this crisis are, but at this point we can anticipate that they will be substantial. As mentioned, the "forced" digitization of a high proportion of the population fuels the demand for FinTech solutions. As the pandemic eases, the habits acquired during the period of social distancing take root more strongly, consolidating the adoption of a financial behavior with a more important digitized component.

Description of the Problem

The core premise for this paper is that financial digitalization is not the actual goal of the process but a means to an end, the way to make industry players reach their goals. This process certainly has a transformative impact on the financial behavior of both clients, be they individuals or companies and financial services providers. An in-depth look at how the financial landscape is impacted by digitalization is taken by Feyen et al (2021).

One study that explores the use of financial digital channels by consumers is that of Valverde and Fernández (2020).

Methodology and Data

This paper is based on analytical research of the topic, with an investigation of the evolution of services, products and practices related to the financial institutions, from the perspective of the institutions themselves and their clients, individuals or companies. We use data from previous studies on financial digitalization (Arner et al, 2015), financial behavior (Korobov, 2020) and financial literacy (Lusardi, 2019), to structure the key transformations based on temporal segmentation.

Results

We structure our results based on the type of stakeholder – consumers, companies and financial institutions – and the time sequence – past, present or future. This approach allows a better perspective on the manner in which financial digitalization makes an impact on society in general.

Financial digitalization for consumers

Past

- Adoption of non-bank payment options (PayPal);
- Increased credit options;
- More direct access to securities markets;
- Cheaper access to payment options;
- Possibility to make faster payments, including in international purchases;
- Face new threats to financial security (ex. phishing);

Present

- Augments consumer independence;
- Modifies the model of consumer behavior (Korobov, 2020), in the sense that the financing institutions is chosen after the product or service that needs to be financed is

found, as opposed to the manner things worked traditionally;
- Access to more diverse investment options;
- Financial services better suited to individual needs;

Future

- Increased access to finance;
- Faster access to financial services;
- Provide better chance for financial inclusion;
- Increase the gap between the financially literate and the financially illiterate;
- Need to take control of their data (not just financial data) in order to optimize their financial persona;
- Polarization of customers based on technology adoption speed;

Financial digitalization for companies

Past

- New options to receive payments from clients;
- Faster international payments;
- Cheaper international payments;

Present

- Faster access to financial services;
- Cheaper access to financial services;
- Access to more diverse financial services;
- Improved processes made possible by the new financial options (such as self-check-out at stores);
- Need to adopt procedures for safe digital financial operations;

Future

- Increased access to finance.;
- Financial services better suited to company needs;
- Data driven financial decision making;
- Real-time financial reporting impacting financing cycles;

Financial digitalization for financial institutions

Past

- Introduction of online banking services;
- Emergence of electronic transactions between financial institutions;
- Initial changes in the regulatory environment addressing digital services;

Present

- Transition of the online operations from the brick-and-mortar business model to a digital business model;
- Increase operational efficiency;
- Reduced cost barriers for market entry;
- Need to focus on cyber security aspects;
- Emergence of the Fintech industry;

Future

- Development of new services;
- Shift from spending on human capital to investing in technology;
- Changing regulatory framework;
- Restructuring of the industry, with Fintech players gaining market share.

Conclusions

We observe that the impact of financial digitalization is noticeable on various aspects of the interaction between consumers, companies and financial institutions with the financial system. As technological progress accelerates this impact changes.

Digitalization has a profound influence on finance. The opportunities presented by the acceleration of innovation in the field are multiple, both in terms of developing better services and products, as well as streamlining the way in which they are offered. The adoption of technological innovations in the field of finance is not homogeneous globally, largely depending on the degree of development of the states and social and cultural aspects.

Digital disruptions transform business models in all industries. There is no doubt that technological developments will continue to significantly influence the financial system and that these influences will accelerate in the years and even decades ahead. It is not clear whether these developments will have a homogenizing effect on financial inclusion or, on the contrary, the gap between regions or between those with different degrees of financial sophistication will increase. There are arguments in favor of both directions. Access to finance also depends on the level of financial education. The general level of financial education conditions both the demand and supply of financial services and products available throughout the economy. More financially sophisticated entrepreneurs diversify the range of financing instruments they consider. But if the number of these entrepreneurs is too small, the potential financiers are not in a position to have sufficiently diversified their offer of services and products.

As the complexity of the financial system increases, financial literacy becomes more important than ever. Financial institutions make efforts to improve the level of financial literacy because this way they support the development of their own business.

Technological changes lead to a transfer of financial activity from the physical to the virtual sphere. Although the services may be offered in a virtual environment, the companies have a physical location and respond to legislative requirements in certain countries. In the situation of companies that carry out activities in multiple countries, offering financial services and products of a homogeneous nature but with the application of different regulatory regimes raises particular difficulties.

The potential of technology to increase the level of financial inclusion is major. Although technological innovations are frequent and significant, even the use of old technologies, already considered obsolete in more developed regions, allows increasing the level of financial inclusion.

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THE CONCEPT OF THE CREDIT POTENTIAL OF THE BANK AND THE FACTORS THAT DETERMINE IT

Victoria COCIUG[29]

Victoria POSTOLACHE[30]

Abstract:

In the context of the economic crisis, caused, among other things, by the COVID-19 coronavirus pandemic, banks faced a shortage of attracted financial resources as a result of falling incomes of the population, bankruptcy of enterprises, and rising unemployment. The lack of financial resources provoked an outflow of depositors from banks. At the same time, for the same reasons, the demand for credit services of banks increased.

The study is aimed at improving methodological approaches to the concept and structure of the credit potential of banks.

In particular, there is no single approach to the definition of the concept of "credit potential of the bank", its structure, as well as the factors influencing it. In addition, there is no consensus on the formation of a methodology for assessing the bank's credit potential.

Keywords: credit potential of banks, economic crisis, bank

JEL Classification: E43, E58

Introduction

The main purpose of the operation of any financial institution on a global scale is to maintain the stability of the banking system and ensure the sustainable economic development of the country. The banking system is the financial anchor of the economic development of the state, because it acts as a financial instrument that provides support and enables the development of small and medium enterprises in the country. In order for the bank to be able to ensure the stable development of business within the country, it must realize and maintain its own potential at a decent level.

The potential of a bank (from the Latin potency - opportunity, power) is a set of strategic resources at the disposal of a commercial bank that determines the limits of financial capacities when it operates under certain conditions. There is also the opinion that the bank's potential includes the value of its own capital and available tangible and intangible assets.

Description of the problem

The formation and implementation of the lending policy of a commercial bank cannot be without the methods and forms of financial support for the bank's credit potential.

In banking theory, there are two approaches to determining the credit potential of a commercial bank. According to the first approach, the credit potential of a bank is, on the one hand, all the funds available to a credit institution, on the other hand, those intangible assets it owns. These include the bank's staff, quality management and established work methods, organization of the lending process, information technology, etc.

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However, the approach given ignores the limits of using the sources of funds mobilized in the bank for granting a loan and performing other active operations. This issue is of great importance for the bank's activities.
Every commercial bank faces the primary task of mobilizing cash and placing it in optimal assets. At the same time, not all funds accumulated by a commercial bank are available for active operations.
The development of lending operations of commercial banks is largely determined by the level of their lending potential, which tends to show an asymmetric reaction to positive and negative management decisions and to the impact of the external environment. The asymmetry is manifested by a relatively high degree of resistance to positive, creative influences, expressed by a decrease in the reaction to them, while negative and destructive influences can produce a fairly quick and tangible negative effect. The efforts to structure and maintain the efficient functioning of the banking system are always greater than those that cause its destruction, so it is always easier to cause damage than to achieve an equivalent positive effect. This property of the credit potential is also a function of its absolute value: a high value ensures increased stability, but significant efforts are required by the bank for each unit of its increase. The crediting potential of a lower value allows ensuring increased rates of relative growth, but to the maximum extent it is subject to the influence of external and internal negative factors.
The conditions for forming and using the credit potential of commercial banks as a whole are complex and contradictory. The state of the lending potential of commercial banks was determined by the following factors:
- deep crisis in the non-financial sector of the economy;
- hard monetary policy, which led to an extremely narrow monetary base and, as a result, to defaults, to the use of monetary substitutes;
- the inefficient structure of household savings, characterized by a large amount of individual savings concentrated outside the banking system.
The bank and its customers in the process of forming and using the credit potential pursue various economic interests, the bank's needs for financing sources of the credit potential and the needs of its customers for financing from the credit potential are closely interconnected and can be determined by the following parameters: profitability, liquidity, property structure, debt capital structure, customer base, risk minimization.
The credit potential of a commercial bank is the sum of the funds mobilized in the bank minus the liquidity reserve [2, p. 10].
The formation of the credit potential of the bank is determined by the possibility of creating the optimal quantitative and qualitative characteristics of the resource support for credit activities. In our opinion, the formation of the financial component of the bank's credit potential is the basis for creating the necessary credit potential in the bank.
As previously mentioned, the totality of financing sources mobilized by the bank represents the total financial potential of the bank's lending activity, whose funds can be used for lending purposes, but not in full. The structure of the net financial potential of net lending activities can be represented as a set of own financing sources and part of borrowed ones, without regulatory requirements.
A commercial bank, lending the free funds of its principals, immediately assumes the obligation to ensure the timely return of these funds. Any commercial bank must create a reserve of liquidity and reliability from each fund unit attracted by it.
The set of factors presented below has an objective impact on the general level of the credit potential of a commercial bank:
- the total amount of funds mobilized in a commercial bank;
- the structure and stability of sources of credit potential;
- the level of mandatory reserves established by the NBM;
- the way of using the mandatory reserves, when the use of these reserves is allowed to maintain the current liquidity of a commercial bank;
- the total amount and structure of liabilities of a commercial bank.

All sources of credit potential are divided into own and borrowed funds. Based on the principle of liquidity, the borrowed funds of a commercial bank consist of short-term and long-term funds. An analysis of the credit potential of the bank, based on the urgency and speed of circulation of funds for individual passive operations, makes it possible to calculate approximately what part of the funds received from a passive operation can be used as a stable credit resource for a certain period, while the remaining part should serve as a liquidity reserve.
At the same time, in our opinion, the concept of credit potential must be clarified, since the term "potential" itself implies that the bank has real and potential opportunities to mobilize resources. The first part of the credit potential - the real financial potential of the bank's lending activities - is characterized by sources invested in credit operations in various forms, and its balance sheet value at each specific moment in time is equal to the value of the bank's credit investments. In fact, the real financial potential of lending activities is an impersonal monetary fund formed from various sources and placed by the bank in lending operations.

Depending on the degree of influence on the final result of the formation and use of the bank's credit potential, it is advisable to distinguish two components in its composition: assets - resources and opportunities that directly and directly affect the final performance during the study period, liabilities - those resources and opportunities that during the study period have a slight influence on it, but subject to the application of a certain set of motivational and stimulating measures, can become a strong source of increasing the efficiency of its use.

Highlighting the active and passive parts of the bank's credit potential is important, both theoretically and practically, because it allows, first of all, the objective assessment of the degree of utilization of the bank's credit potential and,
secondly, to identify the intensive and extensive factors for increasing the efficiency of training and its use.

We consider that the inclusion of modern monetary policy measures, to be opportune, provided that it is oriented towards ensuring a sustainable economic growth.
The possibility of achieving the objectives set by the commercial bank, as well as obtaining the expected economic effect, depends on the structure of the bank's lending potential.
In order to study the structure of the credit potential of a commercial bank, it is necessary to constantly solve problems such as:
- taking into account the sources that make up the bank's lending potential;
- determining the functional role of each resource for the creation and use of bank credit potential [1].
In the economic sphere, only financial resources are included in the structure of credit potential, but a broad understanding of its structure should not be limited only to the financial component (figure 1).

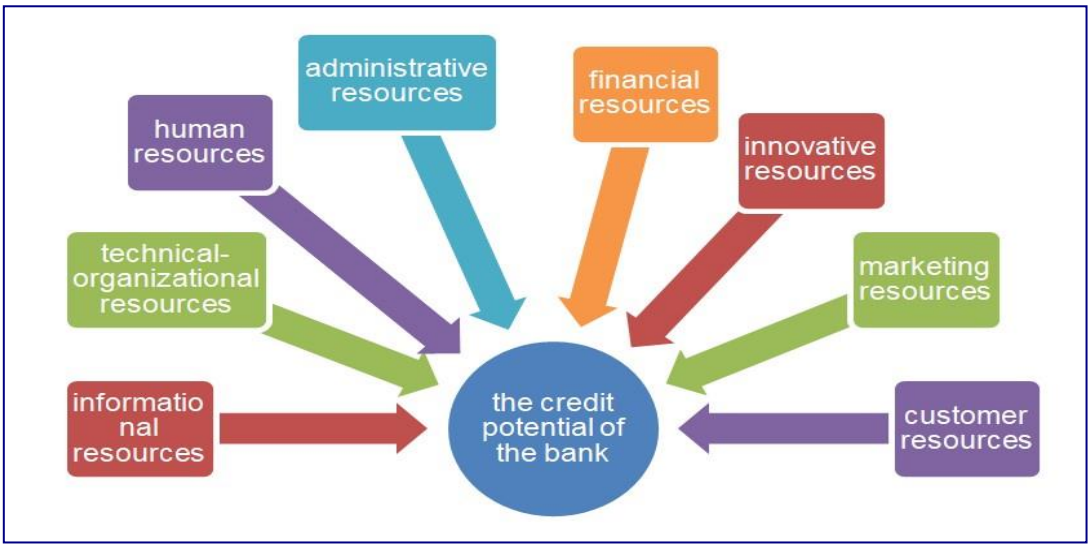

Figure 1. Sources that provide the structure of the credit potential of the bank
Source: elaborated by the author

The resources that act as sources that ensure the credit potential should provide an opportunity to characterize the bank's lending activity, the objectives of the formation and application of the credit potential, the relationship between elements and groups of resources, as well as the definition of the credit potential as the basis of credit activity, as a dynamic and transformational category.
The quality of the structural elements in the composition of the credit potential must be taken into account in interrelationship and interdependence during all stages of the crediting process. Based on this, it is recommended to combine the sources that provide the structure of the bank's credit potential in the following groups of elements that are also components of efficiency: financial, technical-organizational human resources and customers. The main elements of the bank's lending potential are schematically presented in figure 2.

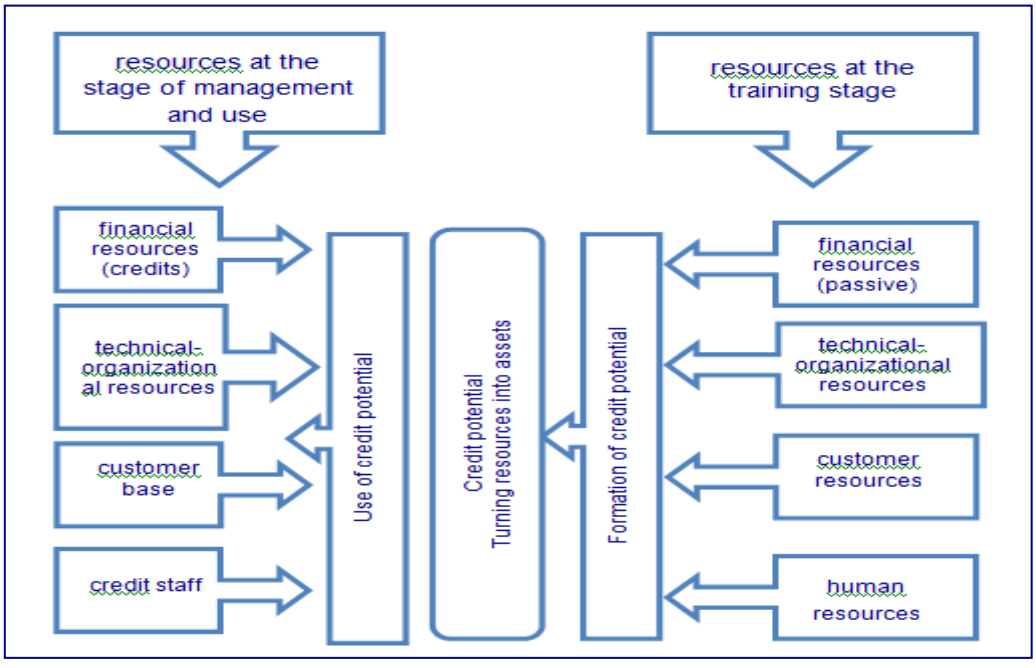

Figure 2. Elements of the bank's credit potential structure
Source: elaborated by the author

Thus, the structure of the credit potential of a commercial bank is represented by two generalized components:
- elements that ensure the formation of credit potential;
- elements that determine its placement possibilities, that is, its use and management.
In the stage of credit potential formation, liabilities are a set of accumulated financial resources that can be transformed into loans.
Technical-organizational resources are business processes, innovations and technologies, i.e., everything that ensures the accumulation of financial resources.
Customer resources are understood as a set of potential customers that provide a constant cash flow in the form of financial resources. Human resources represent a set of operational and managerial personnel involved in the accumulation and transformation of resources.
In the stage of using and managing bank credit potential, all financial resources are transformed into financial assets, which are credit products. Technical-organizational resources, i.e., business processes, innovations and technologies, ensure the crediting process in all its stages. The customer base is represented by a combination of all categories of borrowers. Lending staff at all levels are involved in the effective transformation of resources.

Methodology and Data Sources

In banking theory, the credit potential of a commercial bank is defined as the difference between the total amount of funds mobilized in the bank and the liquidity reserve. Any commercial bank aims to create a minimum liquidity reserve and ensure the maximum credit potential, based on reliability, liquidity and profitability.
In world practice, it is optimal to maintain the primary reserve at the level of 5-10%, the secondary reserve - 10-15% of the volume of deposits. Thus, the total liquidity reserve will be 15–25% of the volume of deposits [1].
In order to evaluate the credit potential, it is recommended to use the credit potential utilization efficiency coefficient, which is calculated according to the formula:

$$Kucp = \frac{Total\ credit}{the\ estimated\ amount\ of\ the\ credit\ potential} \times 100\% \quad (1)$$

where *Kucp* - the coefficient of use of the credit potential.

Based on these values, the estimated size of credit and credit potential for the banking system of the Republic of Moldova will look as shown in table 1.

Table 1. Calculation of the coefficient of use of the credit potential

Indicators	2017	2018	2019	2020	2021
Total loans, mil. lei	33473,29	35452,75	40375,46	45643,21	56359,17
Total deposits, mil. lei	59989,54	63577,37	68449,69	79699,04	90145,7
Total liquidity reserve, mil. lei	3624,5	3558,7	4485,9	9324,3	10717,05
The estimated amount of credit potential, mil. lei	56365,04	60018,67	63963,79	70374,74	79428,65
The coefficient of use of the credit potential, %	59,39	59,07	63,12	64,86	70,96

Source: elaborated by the author based on data from https://www.bnm.md/bdi/pages/reports/drsb/DRSB1.xhtml?id=0&lang=ro

The results presented in the table show that the crediting potential of the banking system in 2017-2018 is insignificantly reduced from 59.39% to 59.07%, even if all elements of the calculation relationship have increased. The following years demonstrate an increase in lending potential from 59.07% to 70.96% with the increase in loans granted per system from 35452.75 million lei to 56359.17 million lei and the estimated value of the potential of credit from 60018.67 million lei to 79428.65 million lei.
These values demonstrate that the economy of the Republic of Moldova has overcome the problems of the pandemic period and favorable conditions for continuous development have been created.
To fully use the crediting potential of the bank, it is necessary to implement the methods of calculating the crediting limitation. The setting of the limits, based on the assessment of the experts, may generate an unjustified increase or decrease of the credit limit. Reducing the limit may make it impossible for the bank to fully use credit resources and, accordingly, not receive the planned interest income. The maximum profit on the lending potential can be achieved when there is an optimal combination of profitability and risk, that is, when maximum profit is achieved under conditions of minimum risk.

Results and discussion

The effectiveness of the bank's credit potential is achieved if, at the same time:
- the minimum necessary liquidity is ensured;
- the entire set of potential lending funds is used;
- the highest possible profitability of the credit potential is obtained.

In order to use the credit potential accumulated by banks for the development of the real sector of the economy, it is necessary to develop special economic mechanisms and, in particular, cancel a series of regulations. For banks to truly become the backbone of the revival, corresponding changes in the regulatory framework are needed to organize closer interactions between commercial banks and industrial enterprises.

Conclusions

As the main directions in the formation and use of credit potential, we consider it necessary to recommend:
– improving the quality of banking services, expanding the list of banking services for attracting client funds, using existing tools to increase the potential, namely: when concluding agreements to attract funds from legal entities and individuals to establish the size of the minimum balance on the accounts, stimulating at the same time this process at rates higher than the "on demand" rate;
- timely revision of the types and conditions of deposit products in order to improve them for pensioners, whose deposits occupy a significant weight in the lending potential of commercial banks;
– expansion of such a field of activity of banks with individuals as individual banking services for wealthy clients, the so-called “Private Banking”, as well as services for individual legal entities – VIP clients (including management of their capital, formation of investment portfolios) , while offering more favorable conditions for placing funds - special banking products, discounts and special conditions within the bank's "partnership programs".
An assessment of the level and factors of formation and use of lending potential serves as a basis for developing recommendations for improving the functioning of the banking system in order to increase its role in stimulating the economy in the difficult conditions of the economic crisis.

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CHALLENGES OF CORPORATE GOVERNANCE: A STAKEHOLDER PERSPECTIVE IN THE EMERGING ECONOMY

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Abstract:

Compliance with Corporate Governance is imperative to achieve a higher level of sustainability in an economy. A dearth of studies has examined the challenges of achieving corporate governance from a stakeholder perspective in emerging economies. Accordingly, this study examines the challenges of corporate governance in Sri Lanka, an emerging economy currently facing an unembellished bankruptcy situation. Adopting a quantitative approach, using a questionnaire survey, this study found the significant challenges highlighted by stakeholders as insider trading, conflicts of interest of directors, political influences on regulatory authorities and lack of investor protection and confidence. This study is essential to the stakeholder theory and has implications for the policymakers in emerging economies by identifying challenges and overcoming them to achieve higher sustainable development.

Keywords: Corporate Governance, Sustainable Development, Emerging Economy, Stakeholder Theory

JEL classification: *G30, G39, G19*

Introduction

Corporate fraud in the world exhibited steady growth after 2018, but half of the organisations (46%) surveyed by PwC revealed that fraud was reported in 2021(PwC, 2021). This situation illustrated that it is critical to comply with corporate governance to reduce corporate fraud and improve corporate sustainability. Dissabandara (2010, p.7) defined CG as "Corporate governance is the mechanism by which companies are rationalised, directed, controlled and monitored. Corporate governance coordinates stakeholders such as shareholders, directors, managers, employees, creditors, customers, global environment and the rest of the society to enhance corporate performance and wellbeing as a common goal." Empirical evidence of literature suggests corporate governance challenges are different in each country wise and time period (Bhasa, 2004; Manawaduge, 2012).

The Corruption Perception Index in Sri Lanka is 37 in 2021, at a higher level and ranked 102 among 180 countries(Transparency International, 2022). In addition, there is no requirement to disclose anti-corruption policies by the companies. Recent corporate financial accounting scandals in Sri Lanka, such as the Government of several enterprises, including the Central

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Investment and Finance Ltd.(previously Central Investment and Finance PLC), The Standard Credit Finance Ltd., TKS Finance Ltd., The Finance Company PLC, ETI Finance Ltd., and Swarnamahal Financial Services PLC (Kirinde, 2021), etc., have brought corporate governance to become a subject of heightened importance in the country and emerging challenges with more significant importance to the Sri Lankan capital market.

In addition, (Manawaduge, 2012) found that the compliance level of corporate governance in Sri Lanka was average (54.27) in the 2009-2016 period by measuring the comprehensive corporate governance index. This study further found a significant disparity between different sectors and sub-indexes, including the board of directors, shareholders, stakeholders, CEO and management and disclosure and transparency. But this considered data collection using an annual report and does not consider the stakeholder perceptions on corporate governance in Sri Lanka.

Accordingly, these significant problems in corporate governance in Sri Lanka may indicate that stakeholders are not confident in the corporate governance of companies based in Sri Lanka. Corporate governance reform is the obvious answer. Stakeholders can serve as observers of companies' activities and play an essential role in enforcing corporate governance procedures. Previous research on stakeholder perspectives on corporate governance has either focused on only one or two stakeholder groups or has ignored all but the company's internal stakeholders (Ajward and Weerasinghe, 2019). The lack of stakeholder input during the rulemaking process has been identified as the most pressing problem. The second dilemma was that the board of directors was not regularly evaluated. In contrast to domestic shareholders, foreign shareholders are not given as much advance notice of general meetings. In this study, they have not put much effort into investigating how the public perceives these kinds of company actions.

Stakeholders' views on corporate governance practices in Sri Lanka were analysed by (Manawaduge, 2012). The results show that most parties agree that good corporate governance practices are essential to a company's success in the marketplace and the community and that the current state of corporate governance in Sri Lanka falls short of expectations. Stakeholders have identified several issues with corporate governance, including a lack of education about and awareness of corporate governance; insufficient regulations and enforcement; a lack of integrity and independence among directors; inadequate ethical standards; a lack of transparency; a lack of diversity among owners; and political interventions, insider trading, and corruption. The overall level of corporate governance in Sri Lanka does not meet stakeholders' expectations. However, the results of this study are not adaptable to the current context as Sri Lanka adopts two corporate governance codes afterwards, and currently, Sri Lanka is in a crisis.

Description of the Problem

Despite introducing a code of best practices for corporations in Sri Lanka in 2013 and 2017, there has been no in-depth analysis of the stakeholder perspectives on corporate governance. Between 2012 and 2022, many changes in how businesses operate and stakeholders see things. The existing findings of previous studies by various researchers on corporate governance in Sri Lanka show many issues and weaknesses of corporate governance in Sri Lanka (Manawaduge, 2012; Dissanayake, Dissabandara and Ajward, 2021; Dissanayake, Dissabandara and Ajward, 2021).

Accordingly, no study has been conducted in Sri Lanka during this crisis with COVID-19 to understand the corporate governance issues faced by a developing economy impacted by the crisis. The primary goal of this research is to assess stakeholder perspectives on corporate

governance challenges in Sri Lanka and to provide recommendations to enhance existing processes.

Methodology and Data

This research examines the stakeholder perception of challenges and practices to improve corporate governance using a positivist paradigm, which necessitates using deductive reasoning and quantitative methods. This study adopted a questionnaire of (Manawaduge, 2012), which primarily includes a comprehensive questionnaire related to corporate governance challenges and recommendations. The questionnaire includes 14 Yes/No questions about challenges of corporate governance, 15 questions including disagree, neutral, and agree with questions, and two open-ended questions including what are the challenges and what are the recommendations. Table 1 lists relevant information about the selected sample.

Table 1 Sample Selection and survey responses by category of stakeholders

Stakeholder Group	Selected Sample Size	Response Received	Percentage
Non-Executive independent director	40	7	18%
Non-Executive non-independent director	40	2	5%
Director/Executive in a company	40	24	60%
Manager/Executive in the Govt.	30	15	50%
Academics	50	26	52%
Audit Superintendent/Audit officer	50	18	36%
Fin. Manager/Accountant	120	90	75%
Banker/Executive in a bank	50	40	80%
Partner/ Manager/Senior in audit firm	100	63	63%
Shareholders	60	10	17%
Total	580	295	51%

Source: Constructed by the authors

Data from participants are collected using a convenience sampling technique. The same questionnaire was developed in digital and manual answerable formats to lessen the impact of non-response bias. In all, 295 valid questionnaire responses were received, with a response rate of 51%. Table 01 displays the responses broken down by stakeholder group.

Descriptive statistics were primarily used to examine respondent demographics and the most salient features of corporate governance. The non-parametric Kruskal-Wallis test appears to outperform its parametric counterpart, the analysis of variance (ANOVA) when applied to asymmetric groups. Accordingly, the Kruskal-Wallis test is run across all items on the questionnaire to determine whether there are statistically significant differences between stakeholder groups concerning the corporate governance aspects addressed by the survey.

Results

Demographic Profile

Demographic profile Include 58% of the participants were males, while 42% were females. It is worth noting that there is parity between the gender in the chosen sample. Over half (55%) of those who took the survey are certified public accountants, with another 33% having passed some but not all of the required exams to become certified. The individuals who have chosen

to participate in the perception survey all have the necessary background knowledge and experience. Over 90% of respondents have some postsecondary education level, with 57% holding at least a bachelor's degree, indicating they can make objective decisions about the topics. Overall, over half of respondents (52%) have more than five years of work experience, with 24.0% having more than ten. 11% of respondents have stock in just one company, 19% have stock in between six and eleven companies, and 5% have stock in more than eleven companies. Only 10% of respondents have directorship experience, but those with direct experience implement corporate governance practices.

Reliability of Questionnaire

The reliability of corporate governance challenges is 0.711, and the `recommendations to adopt corporate governance improvement is 0.887.

Findings of Challenges of corporate governance

In this section, we examine how respondents in Sri Lanka feel about corporate governance challenges and recommendations related to corporate governance. Table 2 shows the descriptive analysis and Kruskal-Wallis test results of Sri Lankan corporate governance challenges.

Table 2 Descriptive Analysis and Results of Kruskal-Wallis Test on Challenges of Corporate Governance in Sri Lanka

Question		Occupation									Total	Chi-Square	Asymp. Sig.
		NEID	DEP	DEG	ACD	ASG	ACC	BEB	APP	SH			
CHG01	Yes	86%	73%	60%	92%	89%	79%	93%	79%	100%	82%	12.912	.115
	No	14.3%	27%	40%	8%	11%	21%	8%	21%	0%	18%		
CHG02	Yes	57%	81%	60%	38%	89%	72%	93%	81%	100%	76%	34.182	.000
	No	43%	19%	40%	62%	11%	28%	8%	19%	0%	24%		
CHG03	Yes	100%	96%	87%	77%	100%	90%	90%	90%	90%	90%	10.482	.233
	No	0%	4%	13%	23%	0%	10%	10%	10%	10%	10%		
CHG04	Yes	100%	88%	87%	58%	72%	82%	73%	59%	80%	74%	21.237	.007
	No	0%	12%	13%	42%	28%	18%	28%	41%	20%	26%		
CHG05	Yes	71%	96%	93%	77%	89%	88%	85%	84%	70%	86%	17.015	.030
	No	29%	4%	7%	23%	11%	12%	15%	16%	30%	14%		
CHG06	Yes	57%	85%	87%	77%	78%	64%	75%	60%	60%	70%	15.947	.043
	No	43%	15%	13%	23%	22%	36%	25%	40%	40%	31%		
CHG07	Yes	43%	85%	53%	65%	83%	84%	93%	71%	90%	79%	28.334	.000
	No	57%	15%	47%	35%	17%	16%	8%	29%	10%	21%		
CHG08	Yes	86%	92%	87%	58%	78%	82%	80%	87%	100%	82%	14.730	.065
	No	14.3%	8%	13%	42%	22%	18%	20%	13%	0%	18%		
CHG09	Yes	86%	85%	87%	31%	67%	72%	73%	68%	60%	69%	23.880	.002
	No	14.3%	15%	13%	69%	33%	28%	28%	32%	40%	31%		
CHG10	Yes	100%	85%	53%	42%	72%	74%	68%	52%	100%	67%	26.313	.001
	No	0%	15%	47%	58%	28%	26%	33%	48%	0%	33%		
CHG11	Yes	100%	81%	93%	42%	61%	71%	88%	71%	100%	74%	22.443	.004
	No	0%	19%	7%	58%	39%	29%	13%	29%	0%	26%		
CHG12	Yes	100%	85%	87%	73%	89%	78%	100%	90%	70%	85%	19.496	.012
	No	0%	15%	13%	27%	11%	22%	0%	10%	30%	15%		

CHG13	Yes	100%	81%	93%	65%	89%	80%	83%	87%	80%	82%	9.888	.273
	No	0%	19%	7%	35%	11%	20%	18%	13%	20%	18%		
CHG14	Yes	100%	88%	100%	92%	89%	88%	85%	79%	90%	87%	7.760	.457
	No	0%	12%	0%	8%	11%	12%	15%	21%	10%	13%		

Source: Constructed by the authors

The respondents of the questionnaire agrees that the five concerns raised are severe problems with the current corporate governance system. Top-level incompetence, insider trading, sloppy risk management, a concentrated ownership structure that controls the Sri Lankan capital market, and a general lack of protection for and faith in the market all fall into this category. Among the other topics covered by the survey, nine show statistically significant differences between stakeholder groups. Insider trading, conflicts of interest among directors, political influences on the CSE, and a lack of investor protection and confidence are significant problems with the corporate governance system in Table 02. There is widespread agreement that there is a significant problem with the unreliability of top management, sloppy risk management, and a concentrated ownership structure that controls the Sri Lankan capital market.

In addition, open-ended questions of the survey allow respondents to share their thoughts on corporate governance in Sri Lanka. About half of the people who answered this question gave feedback (138 out of 295). The most frequently cited problems are: a lack of knowledge and education about corporate governance; corporate governance rules that are not put into practice; political interference; weak regulatory institutions; ineffective independence among directors; a dysfunctional board; a lack of transparency, integrity, and accountability; and insider trading. Not managing minority shareholders' rights, poor internal controlling and risk management, a lack of clarity in cross-holding rules, financial reporting swayed by performance targets, and management's pressure on the profession all figure prominently among the list of problems with corporate governance that have been brought to light.

Findings of recommendations to improve corporate governance compliance level in Sri Lanka

Table 3 displays the findings of the analysis on recommendations to improve corporate governance compliance level in Sri Lanka.

All stakeholders generally agree upon the eight practices outlined in the questionnaire to be areas in which the corporate governance system could be strengthened.

The audit committee should have more authority to investigate financial reporting, important advisory committees should be independent, at least half of the board should be made up of independent directors, the recruitment policy of new directors should be disclosed, and the remuneration policy of new directors should be disclosed, the same compensation of each director should be disclosed in the annual reports, restrictions should be placed on the number of directorships that a single individual can hold at any given time, and the board should adopt a policy of adopting best practices in director recruitment and compensation.

Most stakeholders agree that separating the roles of CEO and chairman, ensuring that independent directors are truly independent of management and major shareholders, and instituting a code of conduct and ethics for all directors and officers. Employees are all crucial steps toward improving the effectiveness of a company's governance system.

In the second open-ended question, respondents were asked what they thought could be done to enhance corporate governance in Sri Lanka.

The recommendations of 35% of respondents (102 out of 295). Implementing a proper evaluation method of corporate governance; enforcing laws about corporate governance; raising public awareness of the importance of good corporate governance practices; streamlining the current governance system; increasing directors' compensation; and strengthening the current corporate governance system by adopting foreign best practices like the Sarbanes-Oxley act.

Further respondents suggest that Good governance should come from the top down, information should be appropriately disseminated among relevant personnel, good governance and independence should come from within an individual rather than from external rules, and companies should be encouraged to improve their internal governance.

Table 3 Descriptive Analysis and Results of Kruskal-Wallis Test on Recommendations to improve Corporate Governance compliance level in Sri Lanka

Question		Occupation									Total	Chi-Square	Asymp. Sig.
		NEID	DEP	DEG	ACD	ASG	ACC	BEB	APP	SH			
CGP01	D	28.6%	7.7%	0%	3.8%	22.2%	1.1%	5.0%	7.9%	0%	5.8%	15.019	.059
	N	0%	23.1%	6.7%	26.9%	5.6%	12.2%	5.0%	7.9%	0%	11.2%		
	A	71.4%	69.2%	93.3%	69.2%	72.2%	86.7%	90.0%	84.1%	100.0%	83.1%		
CGP02	D	14.3%	0%	0%	0%	16.7%	3.3%	0%	7.9%	0%	4.1%	17.077	.029
	N	14.3%	11.5%	40.0%	23.1%	11.1%	13.3%	2.5%	11.1%	0%	12.9%		
	A	71.4%	88.5%	60.0%	76.9%	72.2%	83.3%	97.5%	81.0%	100.0%	83.1%		
CGP03	D	0%	3.8%	13.3%	0%	33.3%	10.0%	7.5%	15.9%	0%	10.5%	26.773	.001
	N	71.4%	15.4%	33.3%	3.8%	16.7%	11.1%	20.0%	22.2%	20.0%	17.6%		
	A	28.6%	80.8%	53.3%	96.2%	50.0%	78.9%	72.5%	61.9%	80.0%	71.9%		
CGP04	D	14.3%	0%	6.7%	0%	0%	1.1%	2.5%	4.8%	0%	2.4%	21.564	.006
	N	42.9%	15.4%	13.3%	7.7%	22.2%	4.4%	15.0%	17.5%	10.0%	12.5%		
	A	42.9%	84.6%	80.0%	92.3%	77.8%	94.4%	82.5%	77.8%	90.0%	85.1%		
CGP05	D	71.4%	3.8%	6.7%	7.7%	16.7%	8.9%	2.5%	17.5%	20.0%	11.5%	23.685	.003
	N	0%	19.2%	13.3%	30.8%	22.2%	10.0%	15.0%	22.2%	10.0%	16.6%		
	A	28.6%	76.9%	80.0%	61.5%	61.1%	81.1%	82.5%	60.3%	70.0%	71.9%		
CGP06	D	28.6%	7.7%	6.7%	0%	16.7%	1.1%	2.5%	4.8%	0%	4.4%	12.569	.128
	N	0%	15.4%	13.3%	30.8%	11.1%	8.9%	17.5%	9.5%	0%	12.5%		
	A	71.4%	76.9%	80.0%	69.2%	72.2%	90.0%	80.0%	85.7%	100.0%	83.1%		
CGP07	D	14.3%	11.5%	0%	3.8%	22.2%	0%	2.5%	7.9%	0%	5.1%	12.320	.138
	N	28.6%	19.2%	20.0%	26.9%	11.1%	15.6%	17.5%	12.7%	0%	16.3%		
	A	57.1%	69.2%	80.0%	69.2%	66.7%	84.4%	80.0%	79.4%	100.0%	78.6%		
CGP08	D	0%	0%	0%	0%	22.2%	0%	2.5%	6.3%	0%	3.1%	18.150	.020
	N	14.3%	11.5%	0%	23.1%	5.6%	3.3%	10.0%	9.5%	20.0%	8.8%		
	A	85.7%	88.5%	100.0%	76.9%	72.2%	96.7%	87.5%	84.1%	80.0%	88.1%		
CGP09	D	14.3%	0%	0%	0%	16.7%	3.3%	2.5%	11.1%	30.0%	6.1%	5.350	.720
	N	0%	19.2%	6.7%	19.2%	11.1%	16.7%	17.5%	14.3%	0%	14.9%		
	A	85.7%	80.8%	93.3%	80.8%	72.2%	80.0%	80.0%	74.6%	70.0%	79.0%		
CGP10	D	0%	3.8%	0%	0%	27.8%	4.4%	2.5%	11.1%	20.0%	6.8%	12.216	.142
	N	0%	15.4%	6.7%	23.1%	11.1%	17.8%	20.0%	22.2%	0%	17.3%		
	A	100.0%	80.8%	93.3%	76.9%	61.1%	77.8%	77.5%	66.7%	80.0%	75.9%		
CGP11	D	14.3%	11.5%	0%	11.5%	11.1%	21.1%	10.0%	20.6%	0%	15.3%	14.021	.081
	N	42.9%	19.2%	13.3%	3.8%	27.8%	21.1%	25.0%	22.2%	20.0%	20.7%		
	A	42.9%	69.2%	86.7%	84.6%	61.1%	57.8%	65.0%	57.1%	80.0%	64.1%		
CGP12	D	28.6%	3.8%	0%	3.8%	17.6%	8.9%	7.5%	9.5%	0%	8.2%	11.683	.166
	N	28.6%	19.2%	6.7%	11.5%	11.8%	21.1%	15.0%	23.8%	20.0%	18.7%		
	A	42.9%	76.9%	93.3%	84.6%	70.6%	70.0%	77.5%	66.7%	80.0%	73.1%		
CGP13	D	0%	0%	0%	3.8%	16.7%	5.6%	2.5%	3.2%	0%	4.1%	13.726	.089
	N	14.3%	15.4%	6.7%	0%	11.1%	7.8%	12.5%	0%	0%	6.8%		
	A	85.7%	84.6%	93.3%	96.2%	72.2%	86.7%	85.0%	96.8%	100.0%	89.2%		
CGP14	D	57.1%	7.7%	0%	3.8%	16.7%	5.6%	2.5%	9.5%	10.0%	7.8%	21.165	.007
	N	0%	30.8%	0%	7.7%	27.8%	27.8%	37.5%	31.7%	10.0%	25.8%		
	A	42.9%	61.5%	100.0%	88.5%	55.6%	66.7%	60.0%	58.7%	80.0%	66.4%		
CGP15	D	14.3%	0%	0%	3.8%	16.7%	0%	2.5%	6.3%	30.0%	4.4%	23.230	.003
	N	42.9%	11.5%	33.3%	19.2%	11.1%	6.7%	12.5%	9.5%	0%	11.9%		
	A	42.9%	88.5%	66.7%	76.9%	72.2%	93.3%	85.0%	84.1%	70.0%	83.7%		

Source: Constructed by the Authors

Conclusions

Most researchers agree on fourteen issues: insider trading, director conflicts of interest, political influences on the CSE, and a lack of investor protection and confidence ranking as the highest. The majority of stakeholders advocated for a split between the CEO and chairman positions, for independent directors to be truly independent of management and major shareholders, for the adoption of a code of conduct and ethics for all directors, officers, and employees, and for the disclosure of all related party transactions as a means of addressing problems with corporate governance. This study adds contribution to the stakeholder theory by considering stakeholder perceptions related to corporate governance and considering these views to improve corporate governance system.

According to the findings of this study, Sri Lanka's corporate governance system is plagued by numerous problems. Stakeholders have offered solutions. This study's most salient finding is the recommendation that corporate governance is incorporated into university curricula as well as the training programs of professional organisations. In order to advance the current corporate governance system, simplify it, and adapt foreign best practices, the key players must conduct proper training programmes to improve knowledge, and the governing bodies must be strengthened with sufficient power. These recommendations must consider for improving corporate governance in Sri Lanka as well as in the world when making further changes.

Policymakers may use the study's findings to prioritise issues raised by stakeholders and reform the code of best practices for corporate governance. This study aims to remedy the theoretical vacuum left by the paucity of prior research conducted in the Sri Lankan and in developing country context, which is reflected in the existing body of scholarly work in the research field. Finally, this research is crucial to ensure that flaws in the current set of best practices are identified and fixed in the next set of best practice codes and improve the compliance level of corporate governance in the world and achieve sustainability.

Future Directions

This study considers stakeholder perception related to corporate governance in Sri Lanka. It is better to adopt this questionnaire in other developing countries and check about their corporate governance issues or cross-country studies related to comparison of results will enhance literature. In addition, future researchers can examine stakeholder perception related to corporate governance practices, key players, and corporate governance relationship with sustainability.

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THE EUROPEAN SCOREBOARD AND THE MACROECONOMIC SITUATION OF ROMANIA

Cătălin DRĂGOI[34]

Abstract:

Following the financial crisis of 2008 and the government debt crisis at the level of the European Union, it was decided to introduce the procedure of macroeconomic imbalances, formalized in the form of the scoreboard, which aims to identify and correct imbalances that appear in the European Union countries that have the potential to extends to other EU countries, or even the entire European Union. The paper aims to analyze how the macroeconomic indicators monitored by the scoreboard have evolved for Romania in comparison with other countries of the European Union, before and after the outbreak of the crisis generated by the COVID 19 pandemic.

Keywords*: macroeconomic imbalances; scoreboard*

JEL Classification*: H62, E62, E66*

Methodology and Data

In order to come to conduct research on the problem of public debt, the paper analyzes data using comparative, descriptive method and the use of a set of information sources, collecting financial data in databases, based on annual reports, consolidated statistical data and the scoreboard provided by the Eurostat. The study was completed by formulating conclusions related to this phenomenon.

Description of the Problem

In 2020 the pandemic hit the economies of all countries profoundly affected economic sectors negatively in particular tourism and air transport but also in a positive sense (production of IT components and online trade), public spending grew rapidly and focused on the field health to combat the pandemic, social protection, but also to support the economy and get out of the crisis. In order to avoid the major turbulences generated by the pandemic crisis, the data before its onset were used. As a result of the economic crisis of 2008 that marked the European economies, which had divergent developments, it was necessary to use at the level of the European Union some instruments to anticipate and prevent possible slippages of the member countries' economies. Thus, in 2011, the economic imbalance procedure appeared which comparatively analyzes the characteristics of the member states and signals the emergence of imbalances and the existing vulnerabilities of some economies at the macro level. This procedure was implemented to complement and strengthen the monitoring and management

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of European economic policies, which until then focused on compliance with the Stability and Growth Pact, whose criteria are primarily of a budgetary nature.

It should be remembered that until the time of their appearance, different scoreboards were already used at the level of the European Union for specific areas such as the Industrial Performance Scoreboard, the Consumer Markets Scoreboard used to show which markets are malfunctioning or the Innovation Scoreboard used to compare the relative innovation performance of EU Member States.

In 2011, a package of legislative measures was introduced, which also includes the mechanism for supervising problems at the macroeconomic level.

The "MIP" procedure (macroeconomic imbalance procedure) consists in the monitoring by the European Commission of a scoreboard that initially had 10 macroeconomic indicators accompanied by maximum or minimum alert thresholds where required. In the first phase, the Commission's report identifies countries showing signs of imbalance in order to carry out an in-depth assessment of them, which should ultimately allow determining whether an imbalance exists and whether it is excessive. In a second phase called "prescriptive", the Commission proposes to the Council either to end the procedure if the results are satisfactory, or to adopt a recommendation regarding the Member State concerned, which can be "preventive" for small imbalances or "corrective ” for excessive imbalances.

The initial analysis of macroeconomic imbalances is mandated in the report of the Alert Mechanism, it is drawn up annually, it is based on the scoreboard, and it identifies the countries whose developments require an in-depth analysis to determine if there are imbalances.

Apart from the preventive side, the MIP also has a corrective side, transposed in the Excessive Imbalance Procedure. The analysis starts from indicators whose values exceed the limit thresholds signaling the appearance of imbalances and is deepened depending on the context and the specifics of the analyzed country. The European Commission adopts preventive recommendations to the member states, from the early stage of imbalances, before they develop. States subject to the macroeconomic imbalance procedure must present a corrective action plan with exact objectives and deadlines. The achievement of these objectives is reported periodically, and the failure of the assumed objectives can bring certain sanctions that can reach fines whose amount can reach the value of 0.1 of the GDP of the sanctioned country.

Over time, four more were added to the initial 10 indicators, and for in-depth analyzes there is a series of auxiliary indicators.

The headline indicators consist of the following indicators and indicative thresholds:
1. 3-year backward moving average of the current account balance as percent of GDP, with thresholds of +6% and -4%
2. Net international investment position as percent of GDP, with a threshold of -35%
3. 5-year percentage change of export market shares measured in values, with a threshold of -6%
4. 3-year percentage change in nominal unit labor cost, with thresholds of +9% for euro area countries and +12% for non-euro area countries
5. 3-year percentage change of the real effective exchange rates based on HICP/CPI deflators, relative to 41 other industrial countries, with thresholds of -/+5% for euro area countries and -/+11% for non-euro area countries
6. Private sector debt (consolidated) in % of GDP with a threshold of 133%

7.Private sector credit flow in % of GDP with a threshold of 14%
8. Year-on-year changes in house prices relative to a Eurostat consumption deflator, with a threshold of 6%
9. General government sector debt in % of GDP with a threshold of 60%
10.3-year backward moving average of unemployment rate, with a threshold of 10%
11.year-on-year changes in total financial sector liabilities, with a threshold of 16.5%
12. 3-year change in p.p. of the activity rate, with a threshold of -0.2%
13. 3-year change in p.p. of the long-term unemployment rate, with a threshold of +0.5%
14. 3-year change in p.p. of the youth unemployment rate, with a threshold of +2%

Results

MIP 2020

At the EU level, the last MIP at the European level published is the one from 2020, given the fact that for 2021 (as we will see) a series of data are provisional or missing.

The problems that appear most often, easily revealed by the scoreboard, are the variation in the unit labor cost that exceeds the maximum threshold in 18 countries, the increased government debt that affects 13 countries and the debt of the private sector shows that 12 countries are in the imbalance zone. It can be seen that there are other criteria that a large number of countries fail to meet: current account balance, net international investment 10 countries and house price index 10 countries.

On the other hand, there are also certain indicators that signal the presence of the respective imbalance in a small number of countries, namely: long term unemployment rate, unemployment rate, private sector credit flow. We will explain in point 2 what the indicators mean and what happens when they exceed the limit threshold.

In 2020, Romania fulfilled 11 of the 14 indicators, thus positioning itself in the first 9 countries along with Poland and Austria. The countries that ranked best in terms of the number of fulfilled criteria were the Czech Republic and Bulgaria, both fulfilling 13 of the 14 criteria. Spain, Portugal and Greece (from the well-known group of countries with PIIGS problems) met the lowest number of criteria 8, 9 and 9 respectively. It is interesting to point out that developed countries such as the Netherlands or Germany meet fewer criteria than Romania with only 10 criteria corresponding to.

The criteria that Romania fails to fulfill are: current account balance, net international investment position, and unit labor cost, all these three indicators being part of the external imbalance and competitiveness category, in the other two categories (internal imbalances and employment indicators) Romania manages to fall into areas that do not indicate the possible emergence of imbalances.

Table 1.1.

MIP Scoreboard 2020

Year2020	External imbalances and competitiveness				
	Current account balance - % of GDP (3 year average)	Net international investment position (% of GDP)	Real effective exchange rate - 42 trading partners, HICP deflator (3 year % change)	Export market share - % of world exports (5 year % change)	Nominal unit labour cost index (2010=100) (3 year % change)
Thresholds	-4%/+6%	-35%	±5% (EA) ±11% (Non-EA)	-6%	9% (EA) 12% (Non-EA)
BE	0.1	44.4	2.5	10.9	7.5p
BG	0.8	-26.3	7.1	16.0	20.4
CZ	1.5	-12.5	5.6	10.1	19.2
DK	8.1	68.8	0.9	11.5	6.2
DE	7.4	61.7	2.4	1.3	11.1p
EE	1.0	-21.5	5.3	17.6	17.1
IE	-5.8	-174.0	-1.2	50.0	-6.3
EL	-3.7	-175.0	0.4	-10.1	6.4p
ES	1.6	-85.5	1.1	-6.8	11.0p
FR	-1.0	-30.2	2.7	-6.9	4.6p
HR	1.6	-47.8	0.5	0.1	13.7p
IT	3.2	2.4	0.6	-2.8	5.5
CY	-6.6	-136.7	0.1	28.5	5.8p
LV	0.7	-34.7	5.9	18.2	18.4
LT	3.7	-15.8	6.9	39.3	18.3
LU	4.5	39.9	1.5	20.6	11.1
HU	-0.7	-48.1	-4.9	8.2	13.2p
MT	3.0	60.3	2.1	13.2	19.7
NL	9.1	113.9	3.8	7.4	14.0p
AT	1.6	9.3	3.2	5.2	12.2
PL	0.7	-44.5	1.1	36.9	12.3p
PT	0.0	-106.4	0.0	-0.9	16.2p
RO	-4.9	-48.3	3.4	20.6	26.1p
SI	6.4	-15.2	1.9	20.2	14.9
SK	-1.8	-65.7	5.3	8.1	16.4
FI	-0.4	-5.3	2.3	12.3	6.1
SE	4.6	16.4	-4.8	4.5	9.4

Source: https://ec.europa.eu/eurostat/

Table 1.2.

MIP Scoreboard 2020

Year2020	Internal imbalances					
	House price index (2015=100), deflated (1 year % change)	Private sector credit flow, consolidated (% of GDP)	Private sector debt, consolidated (% of GDP)	General government gross debt (% of GDP)	Unemployment rate (3 year average)	Total financial sector liabilities, non-consolidated (1 year % change)
Thresholds	6%	14%	133%	60%	10%	16.5%
BE	3.6	1.1p	192.0p	112.8	5.7	8.8
BG	5.2p	4.2	94.3	24.7	4.8	11.1
CZ	5.5	2.4	81.9	37.7	2.3	3.4
DK	4.6	4.8	220.9	42.1	5.2	5.7
DE	7.1	6.0p	120.1p	68.7	3.4bp	11.3
EE	6.9	3.6	104.4	19.0	5.5	17.5
IE	-0.2	-1.8	188.9	58.4	5.5	7.2
EL	5.5e	5.4p	125.3p	206.3	17.6	27.4
ES	2.2	4.4p	146.4p	120.0	15.0	9.5
FR	4.4	13.0p	173.7p	115.0	8.5	11.6p
HR	7.3	1.3p	98.0p	87.3	7.5	7.3
IT	2.2	4.1	118.9	155.6	9.9	6.8
CY	0.7p	-2.6p	260.5p	115.3	7.7	-2.5
LV	2.7	-1.8	66.5	43.2	7.3	10.8
LT	6.4	0.3	54.7	46.6	7.0	28.5
LU	13.8	44.5	316.8	24.8	6.0	-3.6
HU	1.9p	7.7p	76.4p	80.1	3.8	55.3
MT	2.2p	9.0	139.1	53.4	3.9	1.9
NL	6.0p	-1.3p	233.7p	54.3	3.7	3.3p
AT	6.2	4.7	131.2	83.2	4.9	10.6
PL	7.1p	1.5	75.9	57.4	3.5	11.7
PT	7.7	4.4p	163.7p	135.2	6.8	7.2
RO	2.3	1.3p	48.5p	47.4	4.4	13.4
SI	5.2	-0.9	69.7	79.8	4.9	14.0
SK	7.2	3.7	95.3	59.7	6.3	9.9
FI	1.3	6.5	155.2	69.5	7.3	7.7
SE	3.0	11.6	215.7	39.7	7.2b	11.2

Source: https://ec.europa.eu/eurostat/

Table 1.3.

MIP Scoreboard 2020

Year2020	Employment indicators[1]		
	Activity rate - % of total population aged 15-64 (3 year change in pp)	Long-term unemployment rate - % of active population aged 15-74 (3 year change in pp)	Youth unemployment rate - % of active population aged 15-24 (3 year change in pp)
Thresholds	-0.2 pp	0.5 pp	2 pp
BE	0.6b	-1.2	-4.0
BG	0.9	-1.1	1.3
CZ	0.5	-0.4	0.1
DK	1.1b	-0.3	-0.8
DE	1.1bp	-0.5bp	0.6bp
EE	0.5	-0.7	5.8
IE	-0.8	-1.7	0.9
EL	-0.9	-4.7	-8.6
ES	-1.7	-2.7	-0.3
FR	-0.5	-1.3	-1.9
HR	0.7	-2.5	-6.3
IT	-1.3	-1.8	-5.3
CY	1.9	-2.4	-6.5
LV	1.2	-1.1	-2.1
LT	2.6	-0.2	6.3
LU	2.0	-0.4	7.8
HU	1.6	-0.6	2.1
MT	4.9	-0.9	0.3
NL	1.2	-1.0	0.2
AT	0.2	-0.5	0.7
PL	1.4	-0.9	-4.0
PT	-0.4	-2.2	-1.3
RO	1.9	-0.5	-1.0
SI	0.4	-1.2	3.0
SK	0.3	-1.9	0.4
FI	1.6	-0.9	1.3
SE	0.0	-0.1	6.0

Source: https://ec.europa.eu/eurostat/

The comparative analysis of the 14 indicators of the scoreboard of the European Union countries for the last 5 years

1) Current account balance - % of GDP (3 year average)

Current account balance. Retroactive 3-year moving average of the current account balance as a percentage of GDP, with indicative thresholds of +6% and -4%. An economy with a high current account deficit borrows and imports more than its exports, this if it persists can lead to the accumulation of very large debts that can become unsustainable - this is the case of the 2012 debt crisis of the countries in the PIIGS group. There is also a maximum threshold, exceeding which proves that the internal demand is diminished.

In the case of Romania, it is noteworthy that in the last three years it has deposited a deficit of -4%, which is mainly due to the domestic consumption being higher than the domestic production, to the fact that the state borrows to pay pensions and salaries.
A similar evolution is observed in the case of Cyprus.
At the other extreme we have the Netherlands, Denmark and Germany with very large current account surpluses throughout the analyzed period, increasing incomes and encouraging consumption could cause the demand for goods to increase and the current account surplus to fall below the 6% threshold.

Table 2.

Current account balance - % of GDP (3 year average)

Year	2017	2018	2019	2020	2021
Country					
Belgium	0.9	0.1	0.0	0.1	0.2
Bulgaria	2.1	2.4	2.0	0.9	0.5
Czechia	1.3	1.3	0.8	0.9	0.5
Denmark	8.0	7.7	7.9	7.9	8.4
Germany	8.3	8.1	7.8	7.5	7.4
Estonia	1.8	1.4	1.9	1.0	0.2
Ireland	0.2	0.5	-4.7	-5.8	-2.9
Greece	-1.5	-2.2	-2.1	-3.7	-4.7
Spain	2.7	2.6	2.3	1.6	1.3
France	-0.5	-0.7	-0.4	-0.7	-0.3
Croatia	3.0	2.5	2.8	1.6	2.0
Italy	2.2	2.6	2.8	3.2	3.2
Cyprus	-3.2	-4.4	-4.9	-6.6	-7.7
Latvia	0.7	0.9	0.1	0.7	-0.2
Lithuania	-1.0	-0.1	1.4	3.7	4.1
Luxembourg	4.8	4.7	4.7	4.5	4.5
Hungary	2.9	2.2	0.5	-0.5	-1.5
Malta	2.7	3.9	5.7	2.8	-0.9
Netherlands	8.4	9.9	10.2	9.0	8.4
Austria	1.9	1.7	1.5	1.6	1.2
Poland	-0.7	-0.8	-0.4	0.7	0.9
Portugal	0.9	1.0	0.8	0.0	-0.6
Romania	-1.8	-3.1	-4.2	-4.8	-5.6
Slovenia	4.9	5.6	6.1	6.4	5.6
Slovakia	-2.2	-2.3	-2.5	-1.7	-1.7
Finland	-1.2	-1.5	-1.0	-0.5	0.4
Sweden	2.9	2.7	3.7	4.7	5.6

Source: https://ec.europa.eu/eurostat/

2) Net international investment position (% of GDP)

PIIN, as the net financial position (assets minus liabilities) of the domestic sectors of the economy vis-à-vis the rest of the world, is the stock equivalent of the current account balance. Less developed countries or countries with current account deficits with large external debts register a negative net investment position above the indicative threshold of - 35%.
We have four categories of countries: countries with a surplus of PIIN (Denmark, Germany, Holland, Belgium, Luxembourg), etc., countries with negative PIIN but below the indicative threshold (Estonia, Czech Republic, France), countries with PIIN slightly above the indicative threshold (Romania, Poland, Hungary, Croatia, Latvia, Slovakia), and countries with extremely high negative PIINs (Portugal, Spain, Ireland, Greece)

Table 3.

Net international investment position (% of GDP)

Year	2017	2018	2019	2020	2021
Country					
Belgium	56.0	34.3	41.1	44.5	57.1
Bulgaria	-43.0	-37.0	-30.2	-27.1	-19.8
Czechia	-24.9	-24.4	-19.8	-16.3	-15.6
Denmark	55.4	64.0	77.7	69.0	75.4
Germany	44.2	54.8	60.3	63.4	68.3
Estonia	-33.0	-30.0	-22.8	-21.5	-13.3
Ireland	-167.3	-183.6	-193.5	-174.0	-138.9
Greece	-143.4	-148.6	-154.2	-175.0	-175.2
Spain	-85.5	-80.1	-75.0	-84.9	-70.4
France	-20.1	-19.3	-24.6	-30.7	-32.1
Croatia	-64.2	-55.7	-46.7	-47.8	-33.9
Italy	-7.4	-5.0	-1.1	2.0	7.4
Cyprus	-136.1	-125.6	-116.1	-136.2	-122.8
Latvia	-51.4	-45.2	-40.1	-34.7	-28.1
Lithuania	-36.5	-30.5	-24.0	-15.8	-7.2
Luxembourg	80.6	33.0	58.2	53.4	52.8
Hungary	-54.4	-50.7	-49.1	-48.9	-45.3
Malta	56.6	55.5	53.5	51.0	52.9
Netherlands	61.1	72.8	89.9	113.0	93.0
Austria	4.3	6.0	13.5	9.3	14.8
Poland	-61.2	-55.9	-49.8	-44.3	-39.9
Portugal	-110.4	-106.4	-100.0	-104.8	-95.9
Romania	-47.4	-43.8	-43.6	-47.9	-45.7
Slovenia	-24.2	-18.9	-15.9	-15.2	-7.1
Slovakia	-68.3	-69.8	-65.9	-65.7	-61.9
Finland	1.2	-5.6	4.0	-5.0	-3.5
Sweden	-0.9	8.1	16.2	13.9	20.8

Source: https://ec.europa.eu/eurostat/

3) Real effective exchange rate - 42 trading partners (3 year % change)

This indicator is based on consumer prices to capture the determinants of changes in a country's price and cost competitiveness relative to trading partners.

If in previous years imbalances were reported for the Czech Republic and Slovakia, Estonia, Latvia and Lithuania, in 2021 all EU countries fall between the minimum and maximum threshold allowed

Table 4.

Real effective exchange rate - 42 trading partners (3 year % change)

Year	2017	2018	2019	2020	2021
Country					
Belgium	0.9	7.0	2.7	2.5	0.6
Bulgaria	-3.3	4.2	4.6	7.1	3.8
Czechia	5.3	11.0	8.7	5.6	5.0
Denmark	-2.1	2.6	-0.2	0.9	-1.1
Germany	-2.0	5.3	2.0	2.4	0.5
Estonia	3.0	7.6	6.1	5.3	1.9
Ireland	-6.3	2.3	-1.4	-1.2	-2.6
Greece	-3.0	3.8	0.5	0.4	-3.1
Spain	-2.6	4.2	1.7	1.1	-0.5
France	-3.0	4.5	1.6	2.7	-0.4
Croatia	0.1	4.2	1.5	0.5	-1.5
Italy	-3.1	3.4	0.2	0.6	-1.8
Cyprus	-6.4	2.0	0.0	0.1	-2.4
Latvia	1.7	5.1	3.8	5.9	2.3
Lithuania	2.6	6.6	3.8	6.9	4.4
Luxembourg	-1.0	3.3	2.0	1.5	0.6
Hungary	0.0	2.0	0.4	-4.9	-4.1
Malta	-2.5	4.5	1.8	2.1	-1.2
Netherlands	-1.8	3.3	2.4	3.8	2.2
Austria	0.2	4.8	2.1	3.2	1.2
Poland	-3.5	0.1	2.8	1.1	-0.4
Portugal	-0.8	3.3	-0.3	0.0	-2.8
Romania	**-5.6**	**-0.7**	**0.2**	**3.4**	**1.0**
Slovenia	-2.0	2.0	1.0	1.9	-0.4
Slovakia	-2.0	2.5	2.6	5.3	3.1
Finland	-2.6	2.9	0.1	2.3	-0.7
Sweden	-5.5	-4.0	-8.3	-4.8	2.1

Source: https://ec.europa.eu/eurostat/

4) Export market share - % of world exports (5 year % change) Percentage variation over 5 years of export market shares, measured in values, with an indicative threshold of -6%. Changes in quotas can be determined by the increase/decrease in the volume of a country's exports, but also by the increase in total world exports, it is an indicator of the competitiveness of a country's production.

It is noteworthy that the imbalances that appeared in several countries following the crisis generated by the covid 19 pandemic did not exist in any country in the European Union until 2019. Thus, in 2020 Greece, Spain and France registered a decrease in competitiveness, Greece managing to return in 2021. In 2021, competitiveness problems are reported in France, Spain and Italy. Two more countries are close to the alert threshold, Portugal and Germany (with -5.82). The fact that the largest European economies decrease their market shares can be the signal of an economic crisis. Romania has inseminated economic exchanges with these countries, especially with Germany, so that it will inevitably be affected as well. Moreover, in the case of Romania, slight losses of competitiveness can be noted through the decrease from year to year of this indicator.

Table 5.

Export market share - % of world exports (5 year % change)

Year	2017	2018	2019	2020	2021
Country					
Belgium	1.59	-1.34	-2.62	10.21	2.06
Bulgaria	20.06	13.02	15.09	15.50	12.24
Czechia	8.31	11.03	4.81	8.11	-1.04
Denmark	1.53	-0.03	1.73	10.62	6.56
Germany	5.66	3.25	-1.23	0.89	-5.82
Estonia	1.73	-0.29	1.77	16.85	18.27
Ireland	70.90	78.47	73.07	49.06	38.94
Greece	-0.61	6.33	3.23	-10.64	9.24
Spain	9.50	4.33	2.37	-7.33	-10.54
France	2.48	0.51	-0.76	-8.44	-11.31
Croatia	22.97	22.38	22.10	-0.49	7.84
Italy	0.58	-0.19	-2.40	-2.75	-6.26
Cyprus	21.06	21.88	22.94	27.72	14.07
Latvia	7.31	8.44	3.27	17.52	11.78
Lithuania	3.53	2.99	16.22	38.47	35.90
Luxembourg	23.60	14.23	10.48	19.77	:
Hungary	10.22	8.23	4.98	7.51	0.10
Malta	24.09	18.94	19.97	12.55	-0.77
Netherlands	1.26	1.55	-0.29	6.83	1.20
Austria	2.21	2.76	0.73	4.55	-2.26
Poland	28.34	26.42	24.66	36.11	26.25
Portugal	13.89	8.51	8.31	-1.48	-5.50
Romania	**37.98**	**23.45**	**17.38**	**19.89**	**10.77**
Slovenia	17.78	19.50	15.79	19.50	11.38
Slovakia	4.88	2.06	1.28	7.45	-2.78
Finland	-5.29	-4.11	3.09	11.66	4.97
Sweden	-5.73	-6.75	-2.92	3.12	-0.96

Source: https://ec.europa.eu/eurostat/

5) Nominal unit labor cost index (2010=100) (3 year % change). Thresholds of +9% for eurozone countries and +12% for non-eurozone countries. The increase in this indicator corresponds to an increase in labor costs that exceeds the increase in labor productivity.

There are several countries that during the analyzed period never exceeded the threshold: Belgium, Denmark, Ireland, France, Italy, Finland and Sweden.

The pandemic crisis caused that in 2020, 20 of the 27 countries of the European Union exceeded this threshold, many of them not having this problem before, Germany, Spain, the Netherlands, Austria, Greece and Croatia, in 2017 only 5 countries registered values above the limit of this indicator. Even in the countries below the warning threshold, it is found that the maximum of this indicator for the analyzed period is at the level of 2020. It is obvious that this is due to the fact that the level of salaries was not correlated with the stopped or much reduced production from the lockdown period as and the subsequent slow restart of economies affected by various blockages. In 2021, there is an improvement in this situation in all EU countries with two exceptions: Lithuania and Hungary.

Interesting is the situation of Romania, which had high f values of this indicator (even having the record of 29% in 2018 as a result of salary policies that do not take into account the correlation with the degree of labor productivity), in 2021 a "landing" is registered sudden" to a low value, far below the threshold and below the previous values, especially the renouncing of wage increases against a background of inflation and currency depreciation, the average wage converted into euros decreased compared to the previous year.

Table 6.

Nominal unit labor cost index (2010=100) (3 year % change)

Year	2017	2018	2019	2020	2021
Country					
Belgium	1.4	3.9	4.9	7.5	5.8
Bulgaria	15.8	20.5	20.4	20.4	18.9
Czechia	5.7	13.1	14.5	18.7	13.9
Denmark	0.9	1.2	3.4	6.7	6.1
Germany	4.9	6.0	8.1	10.3	7.4
Estonia	12.3	14.2	15.8	15.7	10.7
Ireland	-13.9	-1.3	-3.9	-6.3	-7.9
Greece	-3.3	-1.0	-1.4	6.4	1.1
Spain	-0.6	1.0	5.7	14.3	12.3
France	1.7	2.4	0.9	5.0	4.6
Croatia	-4.0	-0.1	2.8	13.7	6.4
Italy	1.2	2.3	3.2	6.6	4.6
Cyprus	-4.6	-0.4	5.3	5.7	5.0
Latvia	14.2	14.7	15.4	18.6	16.4
Lithuania	16.3	16.4	16.7	18.3	20.7
Luxembourg	6.0	9.9	14.7	13.0	11.2
Hungary	9.3	12.4	11.8	13.9	14.7
Malta	6.7	10.1	7.2	19.6	12.9
Netherlands	0.1	3.7	6.0	14.4	11.2
Austria	4.3	5.0	5.6	12.0	9.9
Poland	4.1	8.0	8.1	14.0	11.2
Portugal	2.8	6.3	8.5	15.6	12.5
Romania	**16.6**	**29.3**	**26.3**	**20.7**	**1.5**
Slovenia	3.6	5.7	8.0	14.5	12.8
Slovakia	7.7	11.6	14.3	16.4	14.3
Finland	-3.7	-2.0	1.3	5.3	6.0
Sweden	4.0	8.1	7.2	8.7	5.5

Source: https://ec.europa.eu/eurostat/

6) House price index (2015=100) - deflated (1 year % change) Large variations on the real estate markets can be an important source of macroeconomic imbalances as happened with the real estate bubble in the United States which was the basis of the downgrade of the financial crisis in the year 2008.

Remarks:

- For the analyzed period, only Portugal registers exceeding the threshold. The explanation for this fact is that Portugal is a small country with access to the ocean and great tourist potential.

- In 2021, a maximum number of countries that exceed the reference threshold is recorded, this can be explained that from the amounts not spent in the previous year at the household level (in 2020, tourism was severely affected, sales of new cars decreased, sales with clothes decreased), could constitute the initial sums needed to purchase a house.

- Contrary to appearances, price increases on the real estate market in Romania are below the European average, and we are not in a speculative real estate bubble.

Table 7.

House price index (2015=100) - deflated (1 year % change)

Year	2017	2018	2019	2020	2021
Country					
Belgium	1.7	0.8	2.6	3.6	4.8
Bulgaria	3.9	4.1	3.9	5.2	4.9
Czechia	9.1	5.9	6.2	5.4	16.4
Denmark	3.5	3.7	1.4	4.7	9.5
Germany	4.6	5.1	4.4	7.1	7.6
Estonia	1.1	2.2	4.4	6.9	10.2
Ireland	9.8	8.1	0.3	-0.2	4.3
Greece	-1.4	1.7	7.2	5.6	6.3
Spain	4.6	5.2	4.1	2.2	1.7
France	2.3	1.2	2.5	4.1	4.7
Croatia	2.9	4.6	7.8	7.3	4.5
Italy	-2.1	-1.5	-0.7	2.1	0.9
Cyprus	1.2	0.5	2.6	0.7	-5.4
Latvia	5.3	6.3	5.8	2.7	7.2
Lithuania	5.2	4.5	4.6	6.4	11.0
Luxembourg	3.3	5.1	8.3	13.8	11.2
Hungary	8.6	10.7	11.8	1.6	9.7
Malta	4.3	5.0	4.2	2.2	3.8
Netherlands	6.1	7.1	4.6	6.2	11.2
Austria	3.4	2.6	4.0	6.2	9.9
Poland	1.8	4.8	6.1	6.9	3.5
Portugal	7.6	8.6	9.0	8.0	8.1
Romania	**3.3**	**1.7**	**-1.9**	**2.2**	**-1.1**
Slovenia	6.6	6.6	5.3	5.2	7.5
Slovakia	4.4	4.9	6.2	7.2	3.0
Finland	0.3	0.1	-0.1	1.2	2.7
Sweden	4.8	-3.3	0.4	3.3	8.1

Source: https://ec.europa.eu/eurostat/

7) Private sector debt - consolidated (% of GDP).The importance of this private sector debt indicator (flow or stock) is given by the fact that excessively high private sector debt increases vulnerability to economic shocks.

Because it is an indicator that varies slightly from year to year, it can be observed that during the entire period studied we have only two categories of countries: those that do not exceed the limit threshold and those that exceed it.

Cyprus, Holland, Denmark, Ireland and Luxembourg register very high values.

Low values are recorded especially by the countries of the former communist bloc whose economic development after the fall of the communist regimes meant that the incipient development of the private sector as well as the weak development of financial institutions made the cumulative loans of the private sector not to reach high levels. Thus, Bulgaria, Hungary, the Czech Republic, Croatia, Latvia, Lithuania have this indicator far below the threshold. Romania, due to the slower development of the market economy, has the lowest values of this indicator throughout the analyzed period, which shows on the one hand that there are no risks associated with this indicator, and on the other hand, that the credit system has room to keep growing.

Table 8.

Private sector debt - consolidated (% of GDP)

Year	2017	2018	2019	2020	2021
Country					
Belgium	187.8	181.0	178.6	184.3	174.6
Bulgaria	98.6	95.0	90.7	94.3	:
Czechia	80.3	83.0	78.6	81.7	:
Denmark	216.7	215.3	221.2	220.9	211.5
Germany	106.6	107.8	110.7	118.8	:
Estonia	106.2	101.2	98.9	102.0	:
Ireland	249.1	230.7	209.3	188.9	:
Greece	120.6	119.2	110.5	125.4	121.0
Spain	139.2	132.6	128.5	147.1	138.1
France	145.0	148.4	152.6	173.1	166.8
Croatia	96.3	92.1	88.3	98.0	:
Italy	109.4	107.8	106.0	118.4	:
Cyprus	304.3	282.9	249.9	259.7	:
Latvia	75.6	69.7	66.2	66.7	:
Lithuania	56.2	56.1	55.3	54.7	:
Luxembourg	286.5	283.9	303.6	314.0	:
Hungary	69.9	68.7	67.1	76.1	78.4
Malta	123.8	121.5	121.3	138.9	:
Netherlands	247.6	241.3	229.9	233.1	229.3
Austria	122.3	122.8	121.6	130.6	:
Poland	76.9	76.8	73.9	75.6	71.1
Portugal	163.0	155.1	149.5	163.7	157.6
Romania	**50.9**	**47.5**	**46.7**	**48.4**	**47.2**
Slovenia	76.1	72.5	68.6	69.5	66.1
Slovakia	90.0	91.9	92.1	95.3	:
Finland	147.7	145.4	146.1	153.3	:
Sweden	198.7	195.0	200.0	212.8	215.2

Source: https://ec.europa.eu/eurostat/

8) Private sector credit flow - consolidated (% of GDP)

This indicator is the flow equivalent of private sector debt as a stock indicator.

Credit expansion is an indicator of the future increase in house prices, and financial crises can be anticipated by a sustained increase in credits in the economy.

In this chapter, we only record the exceeding of the limit value of Luxembourg in 2019 and 2020 as well as those of Sweden in 2020 and 2021.

Romania registers very low values of this indicator.

Table 9.

Private sector credit flow - consolidated (% of GDP)

Year	2017	2018	2019	2020	2021
Country					
Belgium	2.0	-2.0	4.9	0.1	7.1
Bulgaria	4.5	3.9	5.6	4.2	:
Czechia	6.0	6.8	1.4	2.3	:
Denmark	2.0	4.8	10.5	4.9	9.5
Germany	4.1	6.2	5.8	5.9	:
Estonia	4.2	4.6	3.4	3.5	:
Ireland	0.3	-8.8	-9.6	-1.8	:
Greece	-1.2	-0.9	-0.9	5.5	0.5
Spain	0.6	0.0	1.1	4.4	2.4
France	7.1	8.2	7.9	12.8	6.4
Croatia	1.5	2.2	1.1	1.3	:
Italy	1.2	2.0	0.3	4.1	:
Cyprus	7.4	11.5	1.7	-2.5	:
Latvia	2.7	-0.2	1.1	-1.8	:
Lithuania	4.5	4.3	2.6	0.3	:
Luxembourg	-4.7	5.3	19.7	43.7	:
Hungary	0.6	4.2	3.9	7.7	11.6
Malta	6.5	6.9	10.2	9.0	:
Netherlands	3.5	5.2	-0.3	-0.7	11.7
Austria	3.6	4.9	5.0	4.7	:
Poland	3.0	3.7	3.6	1.6	3.8
Portugal	2.9	0.8	2.6	4.4	4.8
Romania	**1.7**	**1.9**	**2.0**	**1.3**	**3.7**
Slovenia	0.9	1.3	0.8	-0.9	3.3
Slovakia	5.0	7.3	4.3	3.7	:
Finland	8.3	4.3	6.5	6.4	:
Sweden	13.2	8.9	9.7	14.4	16.6

Source: https://ec.europa.eu/eurostat/

9) General government gross debt (% of GDP)

A high level of debt brings a series of problems such as: the sustainability of the debt and the possibility of insolvency, the increase in the interest rate on the following loans, the increase in the amount of interest to burdensome values, so that the budget revenues are spent on the payment of loans and less with investments, etc. is one of the most used indicators for macro-level analysis of an economy.

The case of the group of southern economies with a high degree of indebtedness is known: Portugal, Italy, Greece, Spain with a very high degree of indebtedness, to which are added other countries that have exceeded the limit value of 60% of GDP: Belgium, France, Croatia, Cyprus, Hungary, Austria, Slovenia and Finland.

At the other pole are countries with a low degree of indebtedness such as: Bulgaria, Romania, Poland, the Czech Republic, the Baltic countries (all of which had communist regimes until the 90s) but also Sweden, Denmark, the Netherlands, Luxembourg and Malta.

Table 10.

General government gross debt (% of GDP)

Year	2017	2018	2019	2020	2021
Country					
Belgium	102.0	99.8	97.7	112.8	108.2
Bulgaria	25.1	22.1	20.0	24.7	25.1
Czechia	34.2	32.1	30.1	37.7	41.9
Denmark	35.9	34.0	33.6	42.1	36.7
Germany	64.6	61.2	58.9	68.7	69.3
Estonia	9.1	8.2	8.6	19.0	18.1
Ireland	67.8	63.1	57.2	58.4	56.0
Greece	179.5	186.4	180.7	206.3	193.3
Spain	101.9	100.5	98.3	120.0	118.4
France	98.1	97.8	97.4	114.6	112.9
Croatia	76.7	73.3	71.1	87.3	79.8
Italy	134.2	134.4	134.1	155.3	150.8
Cyprus	92.9	98.4	91.1	115.0	103.6
Latvia	39.0	37.1	36.7	43.3	44.8
Lithuania	39.1	33.7	35.9	46.6	44.3
Luxembourg	21.8	20.8	22.3	24.8	24.4
Hungary	72.1	69.1	65.5	79.6	76.8
Malta	47.7	43.7	40.7	53.4	57.0
Netherlands	56.9	52.4	48.5	54.3	52.1
Austria	78.5	74.1	70.6	83.3	82.8
Poland	50.6	48.8	45.6	57.1	53.8
Portugal	126.1	121.5	116.6	135.2	127.4
Romania	**35.1**	**34.7**	**35.3**	**47.2**	**48.8**
Slovenia	74.2	70.3	65.6	79.8	74.7
Slovakia	51.6	49.6	48.1	59.7	63.1
Finland	61.2	59.8	59.6	69.0	65.8
Sweden	40.7	38.9	34.9	39.6	36.7

Source: https://ec.europa.eu/eurostat/

After the debt crisis of 2012, at the urging of the German Chancellor at that time, Angela Merkel, the countries of the European Union, in order to avoid future insolvency situations in which the PIGS countries found themselves, began to reduce their public debt, and this trend continued until the year 2019. But due to the huge need to overcome the problems arising from the COVID 19 pandemic, governments resorted to massive loans and in all European Union countries, without exception, there were considerable increases in this indicator in the following year (2020). However, against the background of the economic recovery from 2021, in 10 of the 17 states this indicator decreased. Noted the case of Germany, which, although it was the initiator of this trend followed at the level of the leadership of the states of the union, if until 2018 it recorded successive decreases, still being above the 60% limit, in 2019 it managed to fall below this limit, because in the year immediately following, against the background of the pandemic, to return to the warning zone (over 60%), and this growth continued in 2021. The only country that managed to get out of the "red zone" is Ireland in 2018 and managed to keep the public debt below the warning level even under the pressure generated by the additional financing needs generated by the pandemic.

For Romania, it should be noted that although the public debt was at a reassuring rate of around 35% of GDP, in 2020 it registered a rapid increase to 47.2% in 2020 and it also increased in 2021 to 48.8 %, economic analyzes showing that in the following years it will be on an upward trend.

10) Unemployment rate (3 year average)

The unemployment rate shows the problems of adapting an economy to changes. A developing economy has decreasing unemployment and vice versa, an economy in crisis has increasing unemployment.

Table 11.

Unemployment rate (3 year average)

Year	2017	2018	2019	2020	2021
Country					
Belgium	7.9	7.0	6.2	5.8	5.9
Bulgaria	8.6	7.3	6.2	5.8	5.5
Czechia	4.0	3.0	2.4	2.3	2.5
Denmark	6.0	5.6	5.3	5.2	5.2
Germany	4.0	3.6	3.3	3.3	3.4
Estonia	6.3	6.0	5.2	5.6	5.9
Ireland	8.3	7.0	5.8	5.6	5.7
Greece	23.6	21.8	19.8	18.4	16.7
Spain	19.6	17.4	15.5	15.0	14.8
France	9.9	9.5	8.9	8.5	8.1
Croatia	13.5	10.9	8.8	7.5	7.2
Italy	11.7	11.2	10.6	9.9	9.6
Cyprus	13.0	10.8	8.9	7.7	7.4
Latvia	9.4	8.6	7.5	7.3	7.3
Lithuania	8.0	7.1	6.5	7.0	7.3
Luxembourg	6.2	5.8	5.6	6.0	5.9
Hungary	5.2	4.2	3.6	3.7	3.8
Malta	4.7	4.1	3.8	3.9	3.8
Netherlands	6.9	5.9	5.1	4.7	4.5
Austria	6.2	5.9	5.3	5.3	5.7
Poland	6.3	5.1	4.1	3.5	3.3

Portugal	11.2	9.3	7.7	7.0	6.8
Romania	**7.2**	**6.2**	**5.4**	**5.4**	**5.5**
Slovenia	7.9	6.6	5.4	4.8	4.7
Slovakia	9.7	8.1	6.8	6.3	6.4
Finland	9.0	8.4	7.7	7.3	7.4
Sweden	7.2	6.8	6.8	7.3	8.1

Source: https://ec.europa.eu/eurostat/

In this chapter, we have a few countries in the alert area, namely Greece, Spain and Italy (again some countries from the PIIGS group!) but which managed to decrease during the period analyzing the magnitude of the phenomenon. Along with them was Croatia, Cyprus and Portugal, but these countries managed to reduce this indicator below the 10% limit. It should be noted that at the level of all countries there is an improvement in this indicator from 2017 to 2020 as a result of the slow overcoming of the financial crisis of 2008 and the debt crisis of 2012. Instead, in 2021 a return to the upward trend can be noted, due to the economic crisis triggered by the COVID 19 pandemic.

In recent years, Romania has recorded a relatively low average unemployment rate, and this fact would be gratifying if we did not take into account the huge number of those who went to work abroad or those who permanently immigrated to other countries. Obviously, without the departure of several million people from the country, the unemployment rate would have been much higher.

11) Total financial sector liabilities - non-consolidated (1 year % change). Indicative threshold is of 16.5%.

Table 12.

Total financial sector liabilities - non-consolidated (1 year % change)

Year	2017	2018	2019	2020	2021
Country					
Belgium	1.4	-3.3	4.7	8.6	7.5
Bulgaria	7.1	6.6	5.2	11.1	:
Czechia	28.3	3.4	4.6	4.8	7.9
Denmark	2.5	-0.3	13.4	5.5	10.4
Germany	4.1	3.2	7.3	11.4	7.2
Estonia	12.3	6.6	11.6	17.9	17.5
Ireland	4.2	5.2	15.3	7.2	:
Greece	-13.0	-4.7	11.6	27.5	14.3
Spain	4.4	-1.4	0.7	10.0	6.6
France	4.3	1.8	7.2	11.8	7.2
Croatia	3.9	4.5	6.8	7.3	:
Italy	1.9	0.1	4.7	7.3	6.2
Cyprus	0.8	-1.8	5.6	-2.5	-3.2
Latvia	6.2	-3.5	4.6	10.8	:
Lithuania	12.9	9.1	6.2	28.5	:
Luxembourg	0.5	-1.1	3.8	-3.6	:
Hungary	-7.1	-9.1	36.8	55.7	14.1
Malta	7.7	2.7	7.1	1.9	:
Netherlands	0.5	-2.8	7.9	1.4	-0.3
Austria	4.4	-0.8	4.3	10.6	:
Poland	4.7	3.3	4.3	11.5	13.6
Portugal	1.3	0.4	-0.2	6.7	7.0
Romania	**8.2**	**3.4**	**10.3**	**13.4**	**13.3**
Slovenia	5.3	4.1	9.9	14.0	14.1

Slovakia	16.6	9.0	5.6	9.9	:
Finland	-4.1	20.1	7.9	7.8	:
Sweden	6.9	-1.3	11.5	10.7	10.9

Source: https://ec.europa.eu/eurostat/

Like the two indicators of private sector indebtedness, the rapid expansion of the financial sector can indicate the emergence of a financial crisis. The indicator reflects the links between the financial sector and the economy.

Several countries register high values for this indicator, but only for short periods, one year or two at most: Czech Republic, Estonia, Greece, Lithuania, Hungary, Slovakia and Finland. In 2021, only Estonia registers a value higher than that of the threshold value, (but the data for many other countries does not exist for the time being)

Romania registers small values beyond the risk zone, but increasing, but approaching the threshold value.

The last three indicators come to complete the unemployment indicator through some specific indicators:

12) Activity rate - % of total population aged 15-64 (3 year change in p.p.). The threshold is -0.2pp.

Table 13.

Activity rate - % of total population aged 15-64 (3 year change in p.p)

Year	2017	2018	2019	2020	2021
Country					
Belgium	0.2	0.9	1.4	0.4	1.1
Bulgaria	2.3	2.2	4.5	0.9	0.6
Czechia	2.4	2.6	1.7	0.5	0.0
Denmark	1.3	1.3	1.6	1.1	1.4
Germany	0.5	1.1	1.3	0.3	1.2
Estonia	3.3	2.3	1.3	0.4	-0.2
Ireland	0.8	0.8	0.6	-1.8	1.8
Greece	0.9	0.4	0.3	-2.9	-0.8
Spain	-0.3	-0.6	-0.4	-1.7	0.0
France	0.4	0.6	0.3	-0.4	0.2
Croatia	0.3	-0.6	0.9	0.7	2.4
Italy	1.7	1.8	0.9	-1.8	-1.1
Cyprus	-0.4	1.1	2.6	1.9	1.7
Latvia	2.5	1.9	1.1	1.1	-1.8
Lithuania	2.2	3.2	2.5	2.6	0.9
Luxembourg	-0.6	0.2	2.0	2.0	2.1
Hungary	4.3	3.6	2.6	2.0	2.1
Malta	4.4	5.9	5.3	4.9	3.5
Netherlands	0.7	0.6	1.2	1.2	1.0
Austria	1.1	1.3	0.7	-0.4	0.1
Poland	2.3	2.6	2.1	1.4	3.4
Portugal	2.0	2.2	2.2	0.0	0.7
Romania	3.0	2.5	3.1	2.3	3.2
Slovenia	3.2	3.2	3.5	0.2	0.6
Slovakia	1.9	1.5	0.8	0.4	0.2
Finland	1.2	2.2	2.3	1.5	1.8
Sweden	1.0	0.9	0.8	0.0	0.6

Source: https://ec.europa.eu/eurostat/

The limit value is exceeded in several years in some of the PIGS countries: Greece, Italy, Spain, and only for a single year in other countries of the union: Estonia, Ireland, Croatia, Cyprus, Latvia, Luxembourg, only for a single year showing that they are momentary problems that do not persist for long periods of time. The only country where this problem extends over a longer period is Spain, however, it manages to fix this problem in 2021.

It can be noted that if in 2018 only one country exceeded the warning value, in 2020 and 2021 and 4 respectively 4 countries exceed the threshold, and this is due to the disruptions in the labor market generated by the pandemic.

13) Long term unemployment rate - % of active population aged 15-74 (3 year change in p.p.). The threshold is 0.5 pp.

For this indicator, in the 5 years analyzed, only two exceedances of the threshold value are recorded; namely Luxembourg in 2017 and Lithuania in 2021.

Table 14.

Long term unemployment rate - % of active population aged 15-74 (3 year change in p.p)

Year	2017	2018	2019	2020	2021
Country					
Belgium	-0.8	-1.4	-1.6	-1.0	0.0
Bulgaria	-3.5	-2.5	-2.1	-1.2	-1.0
Czechia	-1.7	-1.7	-1.1	-0.4	0.1
Denmark	-0.5	-0.6	-0.4	-0.3	0.0
Germany	-0.7	-0.6	-0.5	-0.4	-0.2
Estonia	-1.3	-1.1	-1.3	-0.8	0.3
Ireland	-3.6	-3.2	-2.6	-1.6	-0.3
Greece	-3.2	-3.9	-4.1	-3.8	-3.3
Spain	-5.2	-5.0	-4.2	-2.7	-0.2
France	-0.2	-0.6	-0.8	-1.0	-0.2
Croatia	-5.5	-6.8	-4.2	-2.5	-0.6
Italy	-1.3	-0.9	-1.2	-1.8	-1.1
Cyprus	-3.2	-4.1	-3.7	-2.4	-0.1
Latvia	-1.5	-1.5	-1.7	-1.2	-1.1
Lithuania	-2.1	-1.9	-1.1	-0.2	0.6
Luxembourg	0.5	-0.5	-0.9	-0.4	0.4
Hungary	-2.0	-1.6	-1.2	-0.5	-0.1
Malta	-0.9	-0.9	-1.5	-0.9	-0.9
Netherlands	-1.0	-1.5	-1.4	-1.0	-0.4
Austria	0.4	-0.3	-1.0	-0.6	0.3
Poland	-2.4	-2.0	-1.5	-0.9	-0.1
Portugal	-4.1	-4.3	-3.6	-2.3	-0.3
Romania	**-1.0**	**-1.4**	**-1.4**	**-0.6**	**-0.2**
Slovenia	-2.2	-2.5	-2.4	-1.2	-0.3
Slovakia	-4.8	-4.1	-2.9	-2.2	-0.8
Finland	0.2	-0.9	-1.4	-1.1	-0.2
Sweden	-0.3	-0.6	-0.5	-0.2	0.2

Source: https://ec.europa.eu/eurostat/

14) Youth unemployment rate - % of active population aged 15-24 (3 year change in p.p.). The threshold is 2 percentage points.

With this indicator, the influence of the pandemic on the quality of the labor force is obvious, namely, if until 2019 there is not a single country that exceeds the threshold value, in 2020 there are already 6 countries that enter the alert zone (Estonia, Lithuania, Luxembourg, Hungary, Slovenia and Sweden), and in the following year two more countries will be added to them (Belgium and Latvia).

In none of the three additional indicators of employment, Romania does not exceed the established threshold values throughout the period.

Table 15.

Youth unemployment rate - % of active population aged 15-24 (3 year change in p.p)

Year	2017	2018	2019	2020	2021
Country					
Belgium	-4.0	-6.5	-5.8	-3.5	2.2
Bulgaria	-10.8	-8.8	-8.3	1.3	-0.1
Czechia	-8.0	-5.9	-4.9	0.1	1.5
Denmark	-1.8	-1.7	-2.1	-0.8	0.3
Germany	-1.1	-1.1	-1.3	0.8	0.3
Estonia	-2.8	-2.3	-2.4	6.2	4.7
Ireland	-9.0	-6.4	-4.3	1.4	0.7
Greece	-8.5	-9.1	-10.7	-6.5	-5.7
Spain	-14.6	-14.0	-11.9	-0.3	0.5
France	-2.2	-4.1	-5.3	-2.0	-3.1
Croatia	-18.1	-18.6	-14.7	-6.3	-1.8
Italy	-8.1	-8.1	-8.5	-4.8	-2.5
Cyprus	-11.3	-12.6	-12.5	-6.5	-3.1
Latvia	-2.6	-4.1	-4.8	-2.1	2.6
Lithuania	-6.0	-5.2	-2.6	6.3	3.2
Luxembourg	-7.2	-3.1	-1.9	7.8	2.7
Hungary	-9.6	-7.2	-1.5	2.0	3.6
Malta	-1.1	-2.5	-1.4	0.3	0.3
Netherlands	-3.4	-3.6	-3.6	0.2	0.4
Austria	-0.5	-1.3	-2.9	1.2	1.0
Poland	-9.2	-9.2	-7.9	-4.0	0.1
Portugal	-10.9	-11.7	-9.7	-1.4	3.1
Romania	**-7.0**	**-6.8**	**-4.9**	**-1.4**	**0.5**
Slovenia	-9.2	-7.5	-7.2	3.0	3.9
Slovakia	-11.0	-11.9	-6.3	0.4	4.8
Finland	-0.5	-5.2	-2.8	1.0	-0.2
Sweden	-5.1	-2.9	1.1	6.3	7.9

Conclusions

The dashboard is a tool that makes the work of specialists easier, showing at any moment from which field the economic problems of the countries in the European Union can appear and what scope the respective problem can have, how it can evolve and if other countries of the union can also be contaminated. In the future, the scoreboard can be improved by adding new indicators, by establishing alert thresholds based on analyzes and possibly introducing multiple thresholds depending on the extent of the studied phenomenon. For detailed analyses, the 21 additional indicators are also used, and the analyzes take into account the specifics of the analyzed country and the correlations between the indicators.

In the framework of the analysis carried out, the table proves its efficiency, managing to capture many existing imbalances in the countries of the European Union, as well as the influence of the covid 19 pandemic on the economies through characteristic developments of 2020 and 2021, namely the increase in each studied indicator of the number of countries affected by an imbalance highlighted by exceeding the threshold values.

Romania's situation seems to be a paradoxical one, namely that it fulfills a greater number of the stability criteria compared to many other countries with a developed economy, however, many of the values of the analyzed indicators are on an upward trend, which requires the governments to pay attention to the developments their subsequent ones.

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THE BASIC FINANCIAL FEATURES OF THE CURRENT GLOBAL ECONOMIC CRISIS

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Abstract: *Now, the analysis carried out demonstrates the global economic difficulties, which are largely due to the consequences of the pandemic crisis, the outbreak of the energy crisis and the war between Russia and Ukraine. The current global economic cataclysm also has certain financial features. First, it is about raising the level of global inflation and, consequently, interest rates on the financial market. Secondly, it is worth mentioning the formation and maintenance over a long period of the global debt bubble, which threatens the stability of the world financial system. Thirdly, in the year 2022, the currency wars began to take place on the international currency market, which can have an important impact on some segments of the world economy, as well as the economies of many countries. The study of these global processes is critical for reexamining the economic and financial policies of those affected.*

Keywords: *pandemic crisis, post-pandemic economic and financial crisis*

JEL classification: *F65, G01*

Introduction

Now, we are living in an unprecedented period oriented towards changing the international economic and financial arrangements that have been established for a long time.

Recently, Pierre-Olivier Gourinchas mentioned "the displacement of geopolitical tectonic plates", declaring the following: "The Russian invasion of Ukraine has opened a new chapter in international relations, with important implications for the global economic order". In addition: “The war has brought the potential instability of the current global economic order into sharp relief.” (Gourinchas, 2022)

On the other hand, Prachi Mishra and Antonio Spilimbergo (the International Monetary Fund), made an important statement for the academic world interested in studying the evolution of financial globalization. If we consider their analyses, the war between Russia and Ukraine divided the period of 2020–2022 into two large parts (Mishra, Spilimbergo, 2022):

- The first part represents the pandemic economic and financial crisis, which took place between February 2020 and February 2022.
- From February 24, 2022, with the launch of Russia's armed invasion of Ukraine, the second part began in the form of a new economic and financial crisis, which may become the third global economic-financial cataclysm of the 20th century and which may enter the history of world finance with the name *post-pandemic crisis*.

World Bank specialists confirm the difficult economic situation worldwide: “Global growth is expected to slump from 5.7 percent in 2021 to 2.9 percent in 2022— significantly lower than 4.1 percent that was anticipated in January.” (*Stagflation*…, n.d.)

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Moreover, World Bank President David Malpass said: “The war in Ukraine, lockdowns in China, supply-chain disruptions, and the risk of stagflation are hammering growth. For many countries, recession will be hard to avoid.” (*Stagflation…*, n.d.)

In the World Bank Global Economic Prospects Report from June 2022, it is stated: “The world economy continues to suffer from a series of destabilizing shocks. After more than two years of pandemic, the Russian Federation’s invasion of Ukraine and its global effects on commodity markets, supply chains, inflation, and financial conditions have steepened the slowdown in global growth. In particular, the war in Ukraine is leading to soaring prices and volatility in energy markets, with improvements in activity in energy exporters more than offset by headwinds in most other economies. The invasion of Ukraine has also led to a significant increase in agricultural commodity prices, which is exacerbating food insecurity and extreme poverty in many emerging market and developing economies (EMDEs). Numerous risks could further derail what is now a precarious recovery.” (*Global Economic…*, n.d.)

The post-pandemic crisis was reflected in the prophecies of some experts.

For example, In the second half of 2020, the authors Fetiniuc, Luchian and Tvircun admitted the possibility of triggering a financial crisis following the manifestation of the following factors (Fetiniuc et al., 2020):

- The medium-term manifestations of the consequences of the cyclical international economic crisis;
- The impact of the consequences of the economic crisis of the COVID-19 pandemic;
- Exacerbating the problems of global economic and financial imbalances.

Once the global economic crisis is triggered, it will have certain financial aspects, which will be examined in this publication.

Description of the Problem

The predictions of the economic prophets have now become reality. With the outbreak of the war between Russia and Ukraine, it has become obvious that the entire global economic community has moved from the pandemic crisis to the post-pandemic economic and financial one. This process provides new experience for researchers of the links between globalization and international economic and financial crises. Apart from the traditional consequences of such cataclysms, the current crisis tends to affect the fundamentals of the international financial system. All these are of major importance for the respective adjustments of the economic and financial policies of the affected countries.

Methodology and Data

The study started with the examination of the economic and financial databases of different international institutions. Then the articles published by experts in the studied field from different countries were researched. All this allowed the elaboration of the synthesis table on the global international economic and financial crisis and the elaboration of the related conclusions.

Results

The study carried out allows the presentation of the general model of the post-pandemic economic-financial crisis (Figure 1).

In our opinion, the current global economic and financial crisis is largely determined by three groups of basic factors:

- The consequences of the global pandemic crisis;

- The impact of the global energy crisis;
- The negative influence of the armed conflict between Russia and Ukraine.

The analysis of international economic statistics leaves no doubt that the global pandemic crisis was a strong shock to the world economy, expressed by reductions in some indicators in 2020 compared to 2019:

- Decrease in production by 6.8% (*Sustainable…*, n.d.);
- Reduction in global trade by 8.9% (*How...*, n.d.);
- Decrease in the volume of world trade in goods by 5.3% (Zhang, 2021);
- Reduction in the world market for services by 9.2% (*Global Services…*, n.d.).

Likewise, disruptions to supply chains have been, as has the transmission of demand and supply shocks through supply chains and their propagation across borders.

In addition, the pandemic crisis had a complex of financial consequences:

ECONOMIC AND FINANCIAL CONSEQUENCES OF THE COVID-19 PANDEMIC
POST-PANDEMIC GLOBAL ECONOMIC AND FINANCIAL CRISIS
IMPACT OF THE GLOBAL ENERGY CRISIS
CONSEQUENCES OF THE RUSSIAN-UKRAINIAN MILITARY CONFLICT

Figure 1 - The model of the current global economic and financial crisis

Source: developed by the authors

- Increase in the level of global inflation;
- Demonstration of the instability of the liquidity of the global financial market;
- Global disturbances on the capital markets;
- Provocation of exchange rate fluctuations on the international currency market;
- Temporary reduction of the global volume of official reserve assets;
- Increase in global debt;
- Significant reduction in the volume of direct investments.

In our opinion, this shock will have effects that propagate over time.

Wikipedia approaches the energy crisis (or energy shortage) as “any significant bottleneck in the supply of energy resources to an economy. In literature, it often refers to one of the energy sources used at a certain time and place, in particular, those that supply national electricity grids or those used as fuel in industrial development and population growth have led to a surge in the global demand for energy in recent years.” (*Energy…*, n.d.)

In particular, “the 2021–present global energy crisis is the most recent in a series of circular energy shortages experienced over the last fifty years”.(*2021…*, n.d.)

According Fatih Birol, the global energy crisis “has pushed up energy prices for many consumers and businesses around the world, hurting households, industries and entire economies – most severely in the developing world where people can least afford it”. (Birol, 2022)

The Russia-Ukraine war has become an additional factor of international economic and financial destabilization.

According to some experts, it has “an outsized impact on the global supply chain, impeding the flow of goods, fueling dramatic cost increases and product shortages, and creating catastrophic food shortages around the world”. (Stackpole, 2022)

In our opinion, inflation can be considered as a primary sign of the current global financial crisis.

At the same time, opinions regarding global inflationary trends are different.

In May 2021, the famous billionaire investor Warren Buffett drew attention to the substantial inflation in the US economy, which had as its main causes the acute shortage of raw materials and a large volume of savings among those who kept jobs, which could not be done due to lockdowns as anti-pandemic measures. (Jolly, 2021)

In July 2021, financial experts, especially Yakushova, Mironenko, and Astognei (2021), The compression of the global economy in 2020 was so sharp and the exit so fast that developed and developing countries were engulfed in a wave of inflation in the period May 2020–May 2021.

In December 2021, experts from Nomura Holdings Inc. state: “The bigger risk facing the global economy by late 2022 could be stagnation, not stagflation, as cost-driven price pressures hurt still-weak domestic demand and tighter fiscal and monetary policies turn into a drag... For most countries, there is a “dominance of cost-push inflation -- the bad type of inflation that squeezes profit margins, erodes real household income and tends to self-correct when demand is weak” (Lee, 2021)

Many specialists have expectations for long-term inflation growth because of the influence of a combination of factors (Luchian, Filip, 2022):

- The unprecedented influx of trillions of central banks important to the world financial system into the economies of the respective countries;
- The high level of savings accumulated by citizens during isolation;
- The success of vaccination end masse in Western countries, opening up all new opportunities to spend money every month.

Now, the controversies in the specialized information environment are placed between inflationary expectations and stagflation at the global level.

The basic trends in the field of global inflation are presented in Figure 2.

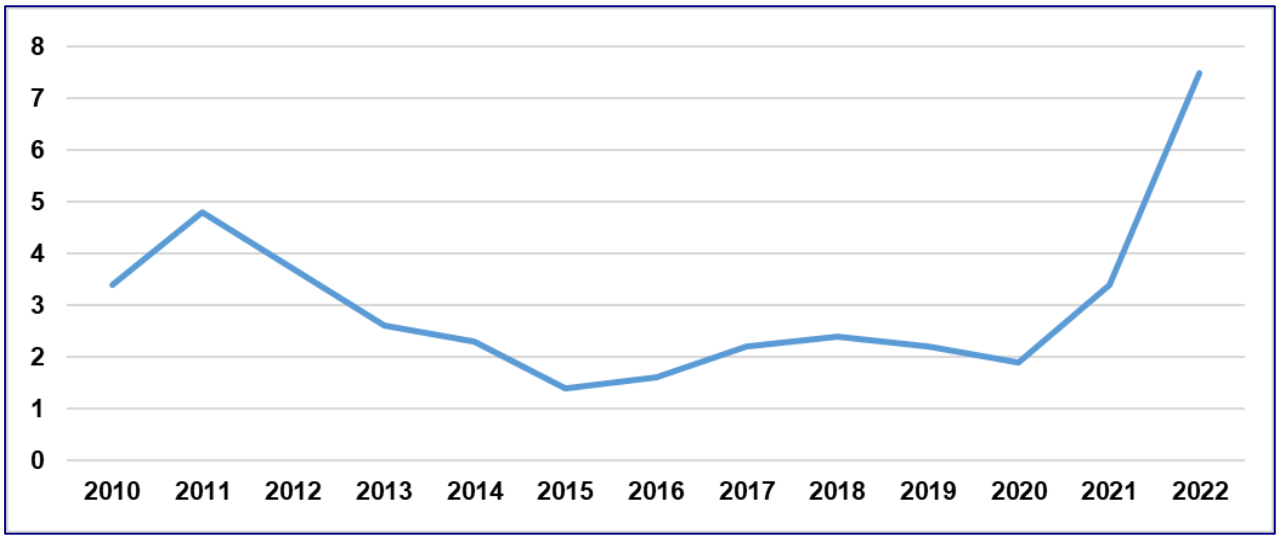

Figure 2 - Dynamics of global inflation (%)

Source: (Inflation…, n.d.), (*Global inflation*…, n.d.)

The upward trend started in 2020 at the level of global inflation of 1.9%, followed by the level of 3.4% in 2021.

According to some experts, the global inflation rate for the end of 2022 can reached 7.5%. (*Global inflation*…, n.d.)

In September 2022, Justinas Liuima stated "Under the baseline scenario, global inflation is now predicted to reach 8.7% in 2022 and then fall to 5.3% in 2023". (Liuima, 2022)

In turn, the author Lan Ha affirms: "Under the global stagflation scenario, global real GDP growth would be 0.5-2.0 percentage points below the baseline forecast and fall to 0.7-2.5% in 2022, followed by a figure of between -1.3% and 1.0% in 2023. Global inflation would rise to 7.2-9.4% in 2022 and 5.7-8.3% in 2023." (Ha, 2022)

Expectations of rising inflation have launched the process of raising interest rates.

For example, the Federal Reserve in September 2022 raised the interest rate on federal funds 0.75 percentage points, the new target range being of 3.00% to 3.25%. (Kolakowski, 2022)

The average level of US Dollar LIBOR rates in 2022 increased from 0.076% in January to 2.315 % in August. (*US Dollar*…, n.d.)

In September 2022, the European Central Bank decided to raise rates by 0.75 percentage points to 1.25%. (*ECB*…, n.d.)

The average EURIBOR rate increased from (-0.576%) in January 2022 to 0.424% in August 2022. (*Euribor*…, n.d.)

The second financial factor of the worldwide crisis remains the global debt bubble (Figure 3). In the first quarter of 2022, the volume of global debt reached a level of 305 trillion USD, continuing the rising level launched since the beginning of the 2000s.

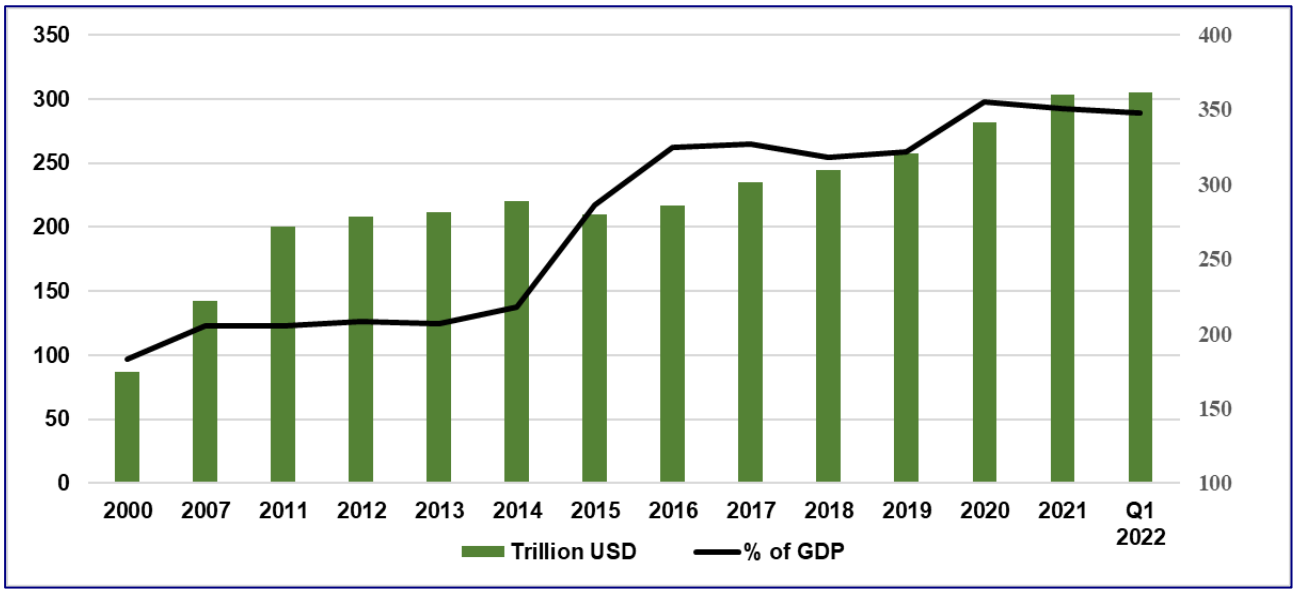

Figure 3 - Global debt dynamics

Source: (Luchian, Filip, 2022), (*Wilkes*, *2022*)

Nevertheless, its share of GDP decreased from 355% in 2020 to 348% in the first quarter of 2022, remaining at an extremely high level.

This increase is largely due to the increase in debt in China by 2.5 trillion USD and in the United States - by 1.5 trillion USD.

In this context, some experts mention: “Global government debt jumped 7.8% in 2021 to $65.4 trillion as every country assessed saw borrowing increase, while debt servicing costs dropped to a record low of $1.01 trillion… Global sovereign debt is expected to climb by 9.5% to a record $71.6 trillion in 2022, according to a new report, while fresh borrowing is also broadly set to remain elevated”. (Smith, 2022)

Regarding private sector debt, Rodrigo Campos stated: “Corporate debt outside banks and government borrowing were the largest sources of the increase in borrowing, with debt outside the financial sector rising above $236 trillion, some $40 trillion higher than two years ago when the COVID-19 pandemic hit”. (Campos, 2022)

An uncertain situation has been created in the field of foreign direct investments (FDI).

In 2021 global flows of FDI recovered to pre-pandemic level, reaching 1.6 trillion USD. However, for the year 2022, the prospects are very pessimistic. According to UNCTAD experts: “This year, the business and investment climate has changed dramatically as the war in Ukraine results in a triple crisis of high food and fuel prices and tighter financing. Other factors clouding the FDI horizon include renewed pandemic impacts, the likelihood of more interest rate rises in major economies, negative sentiment in financial markets and a potential recession”. (UNCTAD, 2022)

The examined crisis also affected the world capital market.

Thus Matthew Toole (2022) comments on the situation for the first half of 2022 as follows: “The biggest falls have been in equity markets, where issuance has slumped 67% year-on-year to raise just $237bn, the slowest opening half since 2005. Meanwhile, the number of issues reached just 2,000, a fall of 48% and a 10-year low. It was a similar story for secondary

offerings, down 63% by value and 48% by number of follow-ons. Convertible offerings have become particularly unloved, suffering a 78% drop in proceeds."

In 2022, some processes carried out on the international currency market were treated as currency wars.

In the classic sense, the term "currency war" refers to the intentional depreciation of a currency in order to obtain competitive advantages in international trade. On the other hand, the reverse currency war implies a competitive appreciation expressed by strengthening currencies in order to control inflation. (Frankel, 2022)

In May 2022 the expert Jeffrey Frankel writes: "The US dollar is up 12% against the euro over the past year and, at €0.93, is approaching parity. If prices of oil and other commodities now seem high in dollar terms, they look even higher in euros. With the greenback surging, and inflation in many countries currently at multi-decade highs, we may be entering so-called "reverse currency wars" – in which countries compete to strengthen their currencies' foreign-exchange values." (Frankel, 2022)

In June 2022, in the opinion of experts Amelia Pollard and Saleha Mohsin, a real global currency wars have begun now against the backdrop of inflationary processes. (Pollard, Mohsin, 2022)

The US dollar strengthened against a number of currencies. Thus, the EUR/USD exchange rate decreased from 1.1364 on 01/03/2022 to 1.0022 on 09/19/2022. Likewise, the GBP/USD exchange rate decreased from 1.3403 on 01/01/2022 to 1.1394 on 09/19/2022. (*Yahoo*…, n.d.)

In these conditions, some experts consider that "the yuan will be the most stable major currency amid the dollar's general strengthening trend, underpinned by China's solid economic fundamentals, its sizable international payments surplus, and its strong trade and investment performances". (Daye, 2022)

As during the pandemic crisis, the post-pandemic crisis has episodically caused a semi-effective increase in current gold prices. (Figure 4)

Figure 4 - Dynamics of world gold prices (USD/oz)

Source: (Gold…, n.d.)

In March 2022, they reached the level of 2052.6 USD for an ounce.

Conclusions

The global economic and financial crisis has become a reality with uncertain prospects. Along with the basic economic problems, its financial aspects should also be highlighted. The main global financial difficulty has become the high level of inflation and, consequently, the increase of interest rates on the financial market, which tends to trigger a chain reaction resulting in the deepening of the financial crisis. In addition, an important risk factor remains the global debt bubble, whose behavior remains unpredictable. Likewise, important qualitative movements take place in the international currency market. The current manifestations of the global economic and financial crisis create serious uncertainty for the operation of the basic segments of the world financial market.

Future Directions

The current global economic and financial crisis is in full swing. The current post-pandemic crisis offers a unique experience of an economic and financial nature for perfecting the concepts related to the mechanisms of global cataclysms of this kind in order to develop anti-crisis measures. In order to make definitive conclusions regarding global post-pandemic crisis, it is necessary to determine the end of this process. Therefore, it will be necessary to continue the observations on the unfolding of events and synthesize the related results.

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THEORETICAL ASPECTS REGARDING SOVEREIGN DEBT AND INDEBTEDNESS

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Abstract:

In the article[38], the author presents, based on the economic literature, characteristics that differentiate sovereign debt from public debt, and points out several definitions of public debt. Also, there are highlighted several features of sovereign debt that represent vulnerabilities for the national economy, and some of the causes of the sovereign debt crisis, after the crisis of sovereign debt is defined. Then, there are presented the consequences of sovereign debt default. The article also talks about sovereign debt restructuring, sovereign risk and its management, as well as about the causes and effects of the growth of the indebtedness of an economy.

Keywords*: sovereign debt, risk, crisis, effects*

JEL Classification*: F34, G01, H63*

Introduction

A country runs into debt when she does not have enough domestic revenues to support economic growth, and therefore, she makes expenses at the cost of burdening future generations.

Public debt has increased significantly in most countries of the world as a result of the global crisis that has outburst in 2020 amid the emergence of covid-19, and of the effects of the measures adopted by the authorities in order to fight the virus's spread. In this context, we consider that the subject addressed in the article is topical.

The increase in the indebtedness of an economy occurs for several reasons, among which the most important are:

- financing budget deficits,

- making investments in the economy aimed at supporting economic growth and the removal of regional disparities, for which there are not enough domestic funds from savings,

- supporting the economy in periods of economic and/or financial recession, by the governments, through fiscal incentives.

For "healthy" governments, borrowing costs are usually low because investors prefer to invest in government debt issues, which are considered safer, compared to private sector investments. The explanation lies in the fact that investors assume that income from taxes and

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fees levied by the government from the entire economy gives a better possibility of honouring the debt than in the case of private entities.

But when public debt becomes too high (some suggest debt levels equal to 90-100% of GDP), international investors/creditors are no longer confident in the state's ability to support debt repayment. Therefore, debt yields (the cost of borrowing) rise. So, *an important effect of a high level of indebtedness is the increase in the cost of borrowing* (Reinhart, C., Rogoff, K., (2010)).

Rising yields drive a vicious cycle that makes high debt levels even less sustainable. It incurs also an increase in the borrowing costs for the private sector.

The effects of loans on the borrowing economy depend on how they are used. Thus, an inefficient use of loans does not sustain economic growth, but, on the contrary, it generates distortions in the sphere of macroeconomic activity, it retains the contracting of loans, causing the decrease of that country's access to (external) financing, the flight of capital and the reduction of available private savings.

Theoretical considerations on indebtedness and sovereign debt

When public spending increases, governments have two choices: either go into debt or to raise taxes. Unlike raising taxes, the contracting of public debt produces its effects (negative, generated by its repayment) over time and it does not significantly influence the sentiment of the population at present, which is important for the rulers.

Aguiar and Amador (2011) show that governments of countries with high economic growth experience increases in net public assets held abroad (foreign reserves minus sovereign debt), and countries with non-performing economies accumulate public debt. Also, the studies of these economists highlight the fact that economic growth is accompanied by an increase in net private foreign liabilities.

The terms of sovereign debt and public debt are often used interchangeably.

The definition of public debt is different from one country to another, so the calculation methodology must be taken into account when making international comparisons. Thus, the public debt may include only the liabilities of the central public administration or also those of the local public administration.

The International Monetary Fund (IMF) defines *debt* as the totality of financial claims that require the payment of interest and principal by the debtor to his creditor on a due date. *The debt financing profile* represents the characteristics of a country's debt, namely the currency composition, the maturity of the debt and the basis (structure, size and residence of creditors).

Public debt represents the loans obtained by the government from third parties, and it can *be external public debt* (from legal and natural persons, companies and banks abroad) and *internal public debt* (from creditors in that country) through the purchase of bonds issued by the government in order to cover the needs of the respective economy.

According to the IMF, *public debt* represents the total financial liabilities borne by all government bodies of a country. The government bodies are directly involved in the process of drawing a strategy for public debt management.

The National Bank of Romania (BNR) defines *public debt* as the stock of total consolidated gross debt of the public administration at the end of the period, showed at the nominal value of the following categories of government liabilities (defined in SEC 2010): cash and deposits, securities, others than shares, excluding derivative financial products, as well as loans. Public debt also includes the government’s liabilities to its own treasury, for the amounts temporarily granted in order to cover the budget deficit.

Public debt consists of *direct public debt* (obligations contracted by the government) and *debt with public guarantee* (debt contracted by public debtors who are not part of the central administration structure and/or private debtors, and its repayment is guaranteed by a public body). The debt contracted or guaranteed by the government retains Romania's creditworthiness.

When contracting public, internal and external loans, the *public debt ceiling* must be observed. It includes all the loans that the government can contract and guarantee during a calendar year. This ceiling is established annually by law, as follows:

- *the internal public debt ceiling* is established according to the approved annual budget deficit and to the provisions of special laws;

- *the external public debt ceiling* is established as the maximum amount of foreign loans that the government can contract and guarantee during a calendar year.

Following the analysis of economic literature, we have found *some characteristics that differentiate sovereign debt from public debt*.

First, *sovereign debt* is the debt of a country's central government. Second, sovereign debt is the *debt issued by the national government in foreign currency* in order to finance the growth and development of the issuing country. This consists of all the loans of a country's government that have been contracted in a foreign currency (Chen, 2019).

Sovereign debt is represented by bonds, treasury bills and securities issued by the government (Pardău, Pascal, 2003).

It is noted that *the term of sovereign debt is narrower compared to that of public debt*, which refers to the liabilities of all government structures and which includes also the debt in national currency.

Starting from the structure, we can state that, *depending on the residence of the creditors*, sovereign debt has two components: *the domestic debt in foreign currency* (loans contracted by the central public administration on the domestic financial market, from natural and/or legal entities, in foreign currencies, unpaid at a given time) and *external debt* (external loans contracted and retained by the government, in its own name from external financial markets). *Depending on the maturity*, sovereign debt can be short-term (it must be paid back in less than a year), and long-term (more than 10 years, in general).

Sovereign loans are contracted when public expenditures exceed revenues, in order to balance the government budget; for making investments in the economy aimed at supporting economic growth, and which are not supported by sufficient domestic funds from savings; in order to carry out the restructuring programs approved by the legally established bodies and authorities; for the supply of stocks of the main strategic products, necessary for the national economy; in order to achieve investment objectives of national interest, for the provision of public goods, for the removal of regional and social discrepancies, for the support of the economy and for the rescue of banks, during recessions and/or economic and financial crises; therefore for the performance of government functions.

In Romania, most of the domestic public loans (part of the sovereign debt) are contracted to finance and refinance the budget deficits incurred since 1992.

The measurement of sovereign debt differs from one country to another, depending on the authority that makes the calculations and on the purpose of this operation. For example, a Standard & Poor's rating for business and investors measures only the debt contracted from commercial creditors, so it does not include borrowing from other governments and from international financial bodies.

Some characteristics of sovereign debt that represent vulnerabilities for the national economy:

- the engagements regarding interests and other expenses related to foreign loans are established by the creditors, the government of the beneficiary country not having the possibility to influence them;

- the payments related to the debt service must be made at the deadlines set by the creditors and not at those convenient for the debtor country;

- non-payment at the established terms of the payments related to the debt service causes penalties and the worsening of future credit conditions;

- the existence of currency risk (a depreciation of the debtor's national currency increases the burden of payments related to the sovereign debt);

- contracting loans from international financial institutions may harm the sovereignty (international financial organizations can ask the government of the beneficiary country to promote certain economic policies);

- the balance of payments is negatively influenced if the amounts obtained from external loans are not used to increase exports or to reduce imports of the debtor country.

The use of sovereign debt loans may not render a financial return. There is, anyway, a real economic and social rate of recovery (yield) of the investment, which represents the society's gain from that loan.

An important feature of sovereign debt is represented by the limited enforcement mechanisms (Aguiar, Amador, 2014), considering that countries are not under a higher legal authority (as in the case of private debtors, for example). If a sovereign debtor does not pay its debt according to the contract, creditors have limited legal methods at their disposal, relying only on international legal instruments and reputational arguments with a negative impact on the degree of risk, on the economic growth, etc. of the indebted country.

Limited commitment prevents risk sharing, especially when the country is heavily indebted. The natural response to the lack of commitment is to save, which, if the country is patient enough, will eventually lead to the best risk-sharing option; otherwise, consumption fluctuates with production forever. Limited risk sharing, volatility of consumption and negative consequences of indebtedness are clear implications resulting from empirical studies (Aguiar, Amador, 2014).

In a manufacturing economy, limited commitment makes production and economic growth to be adversely affected by debt (Aguiar, Amador, 2014).

In the model developed by Aguiar, Amador (2014) it is admitted that there are other equilibria that are not on the Pareto frontier. The multitude of equilibria gives rise to the possibility of self-sustaining debt crises, where economic agents "shift" to a sub-Pareto equilibrium. The first equilibrium condition states that the government makes the default decision in order to maximize the utility. This decision is taken after contracting new debts. The second condition states that the government chooses optimally a new debt. When issuing new bonds, the government does not think that it will not pay back the contracted debt, but the default decision will be taken optimally ex post. The third condition states that investors reach the profitability threshold on any bond issue. The fact that the third condition holds for all new emissions implies that the equilibrium satisfies a perfection requirement; that is, even if the government has chosen a sub-optimal level of debt, investors reach the break-even point (Aguiar, Amador, 2014).

Cole and Kehoe (2000) show that the government responds to the vulnerability brought about by self-sustaining debt crises by reducing debt.

Broner and Ventura (2011) show that the impossibility to enforce international obligations can be associated with the inability to enforce national contracts, if the residence of the contracting

parties cannot be ascertained. Also, public debt can be held by national residents causing a potential redistribution of wealth with harmful effects among economic agents in case of a deviation (Broner et al., 2010). This can be severe if domestic banks hold government bonds as assets and they face constraints in granting loans (Gennaioli et al., 2010).

In practice, the standard sovereign debt contract is usually unconditional (non-contingent). That is, the contract specifies a predetermined sequence of payments, in a certain currency, payments that are made at certain moments in time, and which do not depend on the debtor state. And the maturity structure, the renegotiation, the rescheduling fall under non-conditioning (non-contingency). In addition to limited constraint, the lack of contingency may reflect asymmetric information. To the extent that the government can influence the behaviour of macroeconomic aggregates, the government contingent payment contracts may be prone to moral hazard. Even though the government cannot affect economic outcome, the true situation of the economy may not be verifiable by creditors.

A sovereign debt crisis is generally defined as the inability of a country to pay its public debt as a result of financial and economic problems (financial crisis). This usually happens when a country reaches high (critical) levels of sovereign debt and it experiences low economic growth.

Large and sophisticated financial markets are just as prone to crises as smaller, less advanced markets. There are no real differences in duration or severity between the crises in these two types of markets (e.g., between less developed economies (Indonesia, Philippines, Argentina, Colombia) and developed economies (USA, UK, Japan)) (Reinhart & Rogoff, 2009).

There are *some warning signs for the outburst of financial crises*, which have appeared in the 5 crises of developed economies in the 20th century (Spain, 1977, Norway, 1987, Sweden and Finland, 1991 and Japan, 1992): large capital inflows, many financial innovations, significant price increases in the housing market and financial liberalization. Although an economy may meet the "conditions" for a financial crisis, there may be many years before *the circumstances cause a crisis of confidence that actually triggers the financial crisis* (Reinhart & Rogoff, 2009).

Some of the causes of the sovereign debt crisis are, but they are not limited to:

- Currency crisis. The national currency either loses its ability to be convertible or it depreciates significantly and it becomes difficult (too expensive) to convert the national currency into the currency in which the debt is issued, sovereign debt thus experiencing a significant increase (Reinhart & Rogoff, 2009).

- Change in the economic climate. If the country's economy is based on exports, especially goods, a significant reduction in foreign demand can lead to a GDP contraction and make repayment expensive. If a country issues short-term sovereign debt, it is more vulnerable to fluctuations in market sentiment.

- Internal politics. The risk of default is often associated with an unstable government structure. A new party taking power may be reluctant to meet its obligations on the debt accumulated by the previous government.

- Financial contagion. For example, a slowdown in the activity of financial centres impacts on the emerging economies that rely on exports.

- The limited mechanisms of creditor's coercion on the debtor located outside the borders of his country.

Other causes of sovereign debt crises have been: the financial crisis of 2007-2008, the recession of 2008-2012, the housing market crisis and the housing bubbles in several countries. The fiscal policies of peripheral countries of the European Union on government spending and revenue have also concurred.

Minimizing the risks of producing a sovereign debt crisis requires contracting advantageous loans (e.g., real fixed interest rates as low as possible, the maturity of the loan as long as possible so that the repayment effort is low, the amounts to be returned should be known exactly and planned in a balanced way without peaks that make their return difficult).

Thus, the smaller the share of short-term public debt service in the total public debt service and the more diversified the investor base (in terms of types of investors and their geographical distribution), the debt is less risky, it is sustainable, with a lower probability of entering into a liquidity crisis. In addition, the currency composition of the amounts borrowed must correspond to the sources of foreign exchange from exports.

Default will occur when a country's debt payment obligations exceed its ability to pay. In other words, non-payment of the debt refers to the impossibility of paying the due instalment on the date stipulated in the contract, or the renegotiation of the debt, a process which, in practice, is long and costly and affects negatively both creditors (who record losses) and international markets, but also the insolvent country's economy, with negative effects on other investments in the economy.

The main consequence of defaulting on sovereign debt is the deterioration of the country's credibility. Creditors may refuse to lend that country more capital or they might charge a higher interest rate. Regaining the reputation of a risk-free debtor requires fiscal consolidation and structural reforms.

Bulow and Rogoff (1989) argue that sovereign debt can be renegotiated ex post under the threat of legal sanctions.

Sovereign debt restructuring means the reorganization of a country's debt portfolio and/or of its terms, in agreement with its creditors.

The objective of debt restructuring should be to preserve the value of creditors' assets while supporting the insolvent country to regain economic viability.

When the government decides not to return the foreign debt or to expropriate the foreign investments made at the national level, it is called deviation. This situation implies a limited commitment of the government, who can change its policy at any time. Autarky[39] represents the penalty for deviation in the public debt literature (the classic reference is Eaton and Gersovitz (1982)). This penalty is often understood as representing the loss of a country's reputation on the international financial markets due to a deviation.

The value of autarky defines the upper limit of an economy's liabilities (equal to the debt due).

In the event of a deviation, creditors can resort to legal coercion mechanisms on the international financial markets. Thus, unpaid creditors can sue to take possession of the debtor's exports or international liabilities.

Bulow and Rogoff (1989) argue that complete financial autarky may be unrealistic as a punishment without a legal constraint to prevent saving.

Several studies show that a country will not exit autarky until it makes a payment on the account of the sovereign debt held. This model predicts a phase of punishment followed by a partial payment of the contracted sovereign debt.

Before buying a government's sovereign debt, investors analyse the risk of the investment. The debt of some countries, such as the United States, is generally considered risk-free, while the debt of emerging or developing countries carries more risk. Investors consider the country's political-economic stability, how the government intends to repay the debt, and the possibility

[39] Autarky refers to the situation when an economy cannot trade financial assets at all.

that the country will default. The risk analysis of sovereign debt is similar to that carried out for corporate debt, but in the case of sovereign debt investors can be much more exposed.

Traditionally, *sovereign risk* is the risk that governments of less developed countries will default on their foreign currency debts to banks or to governments of developed countries. The risk of expropriation and nationalization of private assets can also be included.

Sovereign risk ratings are based on an assessment of both a country's ability and willingness to pay back her debt. These ratings consider criteria that include key economic and socio-political attributes of sovereign economies. Sovereign debt ratings and performance depend heavily on the political and economic conditions of the debtor country. Due to the economic and political risks associated with sovereign debt, the indebted country is often rated below safe AAA and AA status, and may be considered below investment grade.

Sovereign risk management implies maintaining a debt portfolio that limits sovereign exposure to a variety of financial risks, including refinancing risk and exposure to contingent liabilities. Debt managers should clearly set out the strategies adopted to limit these risks and communicate them to the public.

Developing countries may be at a disadvantage when it comes to borrowing capital, as they must pay higher interest rates and issue debt in strong foreign currencies to make up for the additional risk assumed by the investor. Although, most countries do not experience repayment problems, problems can arise when the domestic currency depreciates significantly relative to the foreign currency in which the sovereign debt is contracted, causing the debt burden to increase to a level that the government cannot cope with, or when (inexperienced) governments overvalue projects that are to be financed by debt, overestimates the revenues that will be generated by economic growth, or/and build their debt so that payments can be made only in the best economic conditions.

Conclusions

The issue of sovereign debt has been and continues to be both important and delicate, due to the need to preserve, on the one hand, the ability to benefit from international funds when domestic capital is insufficient to carry on the economic activity, as well as to maintain the international creditworthiness and credibility, by meeting payment engagements on time. In order to achieve this goal, the (externally) indebted country must have a healthy financial structure, materialized in the existence of strong financial institutions, able to minimize the risk of financial crises and to achieve the effective conscription of domestic savings, in order to avoid the increase in taxes or in foreign savings borrowed from abroad. The argument against the excessive increase of taxes is suggestively presented by the graph of the economist Arthur Laffer, according to whom high taxation discourages economic activities.

The analysis conducted shows that the risk of non-payment can appear at different levels of the public debt, sometimes even very low. The optimal level of indebtedness depends on the characteristics of each country, sometimes even on unpredictable conditions, although there are certain thresholds of indebtedness established at the international level. It is not the level of debt to GDP ratio that is in itself so important as the problems that debt cause in the national economy. In the stressed conditions of the international markets, the "safe" level of public debt is lower today than it was in the 2000s.

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THE INSURANCE INSTRUMENT, A PILLAR OF SUPPORT FOR THE FINANCIAL INDUSTRY AND SOCIETY

Iuliana MILITARU[40]

Abstract:

Insurance was during the pandemic the fourth most affected sector globally, after sectors such as the HoReCa industry, the banking sector and the energy sector. The pandemic phenomenon made many government institutions decide to reduce interest rates to minimum levels, with the expected effects on investment-dependent industries, which is why these decisions are reflected in the negative results recorded by the financial sector. In this paper, we propose, based on empirical data, to highlight the main challenges of the financial sector with a direct orientation towards the insurance sector and to propose solutions for the recovery of this sector.

Keywords: *financial instruments, finance, sustainability*

JEL Classification: *G23, O16, Q56*

Introduction

In the latest reports from the Boston Consulting Group, insurance was defined as the fourth most affected sector globally, surpassed only by hotels and leisure, banking and energy. The Boston Consulting Group's 2020 Value Creators Report, a global consulting company, profiles the 97 largest publicly traded international insurers with a market capitalization of more than $5 billion as of December 31, 2019. Of these 97 insurers, 41 were headquartered in the Americas, 33 in Europe and Africa, and 23 in Asia and the Pacific (APAC).

Over the past five years, insurers have posted a total shareholder return (TSR) of 8.2% on average, slightly underperforming the market by 1.4 percentage points. This return takes into account the evolution of the share price, including dividends. Large insurers, however, performed much better—the industry's top performers delivered a 36% TSR return in 2019 and an average of 20% TSR since 2014.

With the outbreak of the global pandemic caused by the SARS-CoV-2 virus, everything went more difficult. Many governments have cut interest rates to record lows, with the expected knock-on effects on investment-dependent industries. In the financial sector, banks were the most affected, followed by life insurance.

As of June 2020, the insurance industry was down 21% from the perspective of total shareholder return, being the fourth most affected sector in the pandemic, while the S&P Global 1200 stock index had a loss of only 9%, as we can see in the table below.

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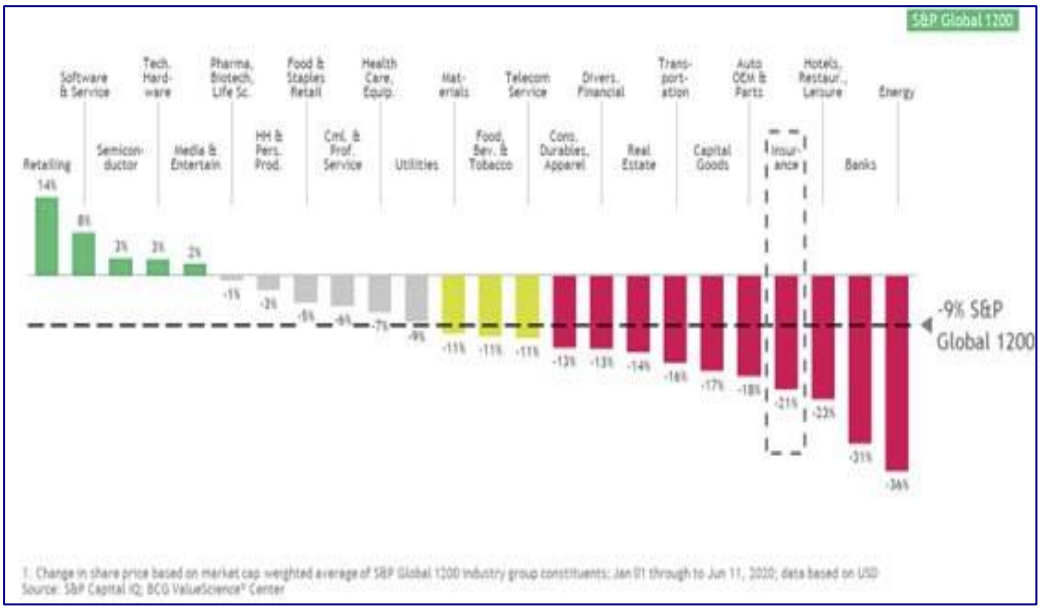
Grafic 1: Insurance sector losing (YTD, S&P)

On the other hand, there are insurers that have significantly outperformed other competitors or



companies in other industries, underscoring one of our fundamental lessons: any company can find its way to creating added value. Moreover, this performance was recorded both in different geographies and in distinct market segments. The top five companies over the past five years, 2014 - 2019, were: South América (Brazil, mainly property, casualty, but also health, annual TSR of 43.6%), Progressive (USA, property and casualty, annual TSR of 25.2%), Ping An (China, multi-line insurance, annual TSR of 23.5%), Hannover Rück (Germany, reinsurance, annual TSR of 23.5%) and Porto Seguro (Brazil, mainly property, casualty and health, annual TSR of 21.9%). The full list is illustrated in the tables below.

Table 1.

Top quartile insured

Company	5-year average RoE (%)	5-year TSR 2015-2019 (%)	Book value growth (p.p.)	P/B multiple (p.p.)	Dividend yield (p.p.)	Share change (p.p.)	2020 YTD[1] share price change (p.p.)	Region	Sector
Sul América	16	44	12	28	4	0	-24	South America	P&C / Health Insurance
The Progressive	21	25	13	9	3	0	8	North America	P&C Insurance
Ping An	18	24	20	3	2	-3	-9	Asia-Pacific	Multi-line Insurance
Hannover Rück	13	24	7	11	5	0	-5	Europe	Reinsurance
Porto Seguro	16	22	7	9	6	0	-16	South America	P&C / Health Insurance
Primerica	21	21	6	8	1	5	-14	North America	L&H Insurance
Swiss Life	7	20	5	11	4	-1	-24	Europe	L&H Insurance
Kemper	7	19	7	14	2	-5	-16	North America	P&C Insurance
Admiral	49	19	10	3	7	-2	1	Europe	P&C Insurance
Cincinnati Financial	12	19	8	7	4	0	-44	North America	P&C Insurance
Hanover Insurance Group	9	18	1	11	4	2	-25	North America	P&C Insurance
W. R. Berkley	12	18	6	8	3	1	-19	North America	P&C Insurance
American Financial Group	11	17	6	7	4	-1	-44	North America	Multi-line Insurance
Arch Capital Group	9	17	12	6	0	-1	-29	North America	P&C Insurance
Talanx	10	17	7	5	5	0	-21	Europe	Multi-line Insurance
Assurant	8	16	-7	18	3	3	-19	North America	P&C Insurance
ageas	7	16	2	7	4	3	-38	Europe	Multi-line Insurance
RenaissanceRe	6	16	8	10	1	-3	-8	North America	Reinsurance
Erie Indemnity	23	16	10	3	3	0	8	North America	P&C Insurance
Fidelity National Financial	12	16[2]	-2	8	10	0	-30	North America	P&C Insurance
Old Republic International	12	15	8	3	7	-3	-27	North America	P&C Insurance
AIA	13	15	14	0	2	0	-11	Asia-Pacific	L&H Insurance
Globe Life	15	15	10	1	1	4	-29	North America	L&H Insurance
RGA	11	15	10	1	2	2	-48	North America	Reinsurance

1. Year-to-date from 1 January 2020 to 11 June 2020; 2. Here BV of equity and P/B multiple used opposed to other companies for which we use BV of tangible equity and P/TB multiple
Source: S&P Capital IQ, Refinitiv, BCG ValueScience© Center

Tabel 2.

Second quartile insures

Company	5-year average RoE (%)	5-year TSR 2015-2019 (%)	Book value growth (p.p.)	P/B multiple (p.p.)	Dividend yield (p.p.)	Share change (p.p.)	2020 YTD[1] share price change (p.p.)	Region	Sector
Gjensidige Forsikring	20	15	4	5	6	0	-2	Europe	P&C Insurance
First American Financial	13	15	20	-8	3	-1	-15	North America	P&C Insurance
Allianz	11	15	5	3	5	2	-13	Europe	Multi-line Insurance
Münchener Rück	8	15	0	5	5	4	-10	Europe	Reinsurance
Aflac	15	14	10	-2	3	4	-32	North America	L&H Insurance
Tryg	21	14	-14	23	7	-1	0	Europe	P&C Insurance
Intact Financial	10	14	-1	13	3	-2	-7	North America	P&C Insurance
SCOR	7	13	1	7	5	0	-35	Europe	Reinsurance
IA Financial	11	13	8	3	3	-1	-36	North America	L&H Insurance
Tokio Marine	8	13	1	6	4	2	-19	Asia-Pacific	P&C Insurance
Everest Re	9	13	4	4	3	2	-23	North America	Reinsurance
Zurich Insurance	10	12	0	5	7	0	-10	Europe	Multi-line Insurance
Swiss Re	6	12	-5	7	6	3	-25	Europe	Reinsurance
Hiscox	9	12	-2	11	4	-1	-46	North America	P&C Insurance
Allstate	13	12	1	3	2	5	-15	North America	P&C Insurance
Alleghany	5	12	1	8	0	2	-37	North America	P&C Insurance
NN Group	7	12	9	-3	5	1	-15	Europe	L&H Insurance
Helvetia	7	12	4	3	4	0	-30	Europe	Multi-line Insurance
Sony Financial	9	11	4	4	3	0	3	Asia-Pacific	L&H Insurance
Sun Life Financial	11	11	4	2	4	1	-15	North America	L&H Insurance
AXA	6	11	1	5	5	0	-28	Europe	Multi-line Insurance
Markel	7	11	4	7	0	0	-19	North America	P&C Insurance
Baloise	9	11	3	3	4	0	-15	Europe	Multi-line Insurance
BB Seguridade	61	11	-8	11	7	0	-22	South America	Multi-line Insurance

1. Year-to-date from 1 January 2020 to 11 June 2020
Source: S&P Capital IQ, Refinitiv, BCG ValueScience© Center

None of the Romanian insurance companies are in this top (in fact, only 3 European insurers are in the first quarter) and only one is in the second quarter.

According to the paper InsurTech financial instruments on the financial market in the current global context (Manta O., Militaru I., Croitoru L, 2021) in which the main trends of the insuretech industry were presented, we appreciate that these models are necessary to mention whenever we have the opportunity, so as to create the conceptual multiplier effect at the level of the markets.

What is the future of insurance? Experts share their opinions

No one will accuse insurance of being the most exotic industry. But it may just be the most important. As technologies shape the future of the world in ways most of us never anticipated, insurers will need to keep up.

Here's what industry insiders see as the future of the insurance industry:

Marina Cvetkovic, VP of Strategy and Chief of Staff to the CEO of Swiss Re

“There is a lot of talk about insurtech, but I would say that the future of insurance is in tech-insurance. Insurance is about data and the big tech companies will very soon, if they haven't already, exceed the amount of data they hold compared to insurance companies. Insurance companies will survive if they turn into service providers, offering insurance products to big tech companies who will own the data and dictate the terms. Tech companies will face insurance end customers.”

Patricia Renzi, Principal at Milliman “Insurance needs to change to be more customers focused. This will require the cooperation of insurers and regulators to change the way we define insurance and the way we communicate with customers. By focusing on customer needs and remembering that insurance is what protects individuals against the unexpected so they can continue to thrive, we can give people the means to escape poverty, to protect their homes and families, to retire for sure, in order not to be bankrupted by a health crisis. We need to better communicate the tremendous value of insurance to society and help people protect themselves and their families. We need to build stronger trust and we can do that through better communication and engagement.”

Karn Saroya, CEO of Cover “In terms of insurance distribution, I think wherever insurable property is sold or managed, it will be embedded through API. Insurance entities will need to look, act and feel like technology companies in the way they use data sets to distinguish good risk from bad risk.”

Samantha Kohn, Communications Manager at Mobiles, Inc.

“With increased competition and market saturation, the future of the insurance industry is utility value. The cost of customer acquisition is extremely high and most insurance companies currently operate solely on transactional value rather than utility value. This means that marketing efforts and resources are spent on attracting and signing new customers, but once the contract is signed, very little effort is put into providing ongoing value, also known as utility value. To compete, insurance companies will need to start focusing on utility value - continuing to offer customers value that entices them to stay.”

Jiten Puri, Founder and CEO of PolicyAdvisor

"Product: Changing consumer preferences, ubiquity of data, and deep learning capabilities will transform insurance from an episodic protection product with a one-time benefit payment to a SAAS-like prevention and enrichment product, with insurers offering continuous services (of e.g. in health and welfare).

Process: The abundance of data will allow carriers to integrate with third parties data

ecosystems to measure “everything at any time,” thereby making better targeting and underwriting decisions. Non-traditional data sources (eg wearable/biometric data, VR-enabled selfies, social media fingerprints) will become embedded in life insurance models.

Pricing: As data latency decreases, life insurance prices will be lower weighted on historical population-derived actuarial models and focused more on insights from personalized and real-time risk assessments. Better underwriting will lead to more accurate and tailored pricing.”

Jayant Lakshmikanthan, CEO and Founder of CLARA analytics

“This may sound a bit abstract and futuristic, but AI advances have already led to a whole new market segment: InsurTech. The rise of InsurTech indicates that the insurance industry is changing profoundly as it modernizes. The ability to analyze countless data points in mere seconds opens up avenues of assessment and prediction that humans simply cannot hope to achieve. This does not mean that people are no longer needed in the industry. On the contrary, Humans still possess higher-order thinking skills that machines are not equipped to acquire. The ability to consider intangibles, judge, sees and interprets what lies beyond the screen - these are human skills that will always be in demand."

Forecasts and strategic imperatives

The unclear medium-term outlook for the post-COVID-19 period brings a level of uncertainty that most management teams have not faced before. For example, how long will it take to retrieve the request? How will non-life claims evolve? How much opportunistic capital will enter the industry as a result of the price increase? How can insurers cover attractive life and pension products in a world of zero return?

We have identified four imperatives, in addition to the fifth, improving capital allocation, for insurance firms to thrive in the post-Covid world:

 Accelerating transformation to create a Bionic Business Model

Through research, BCG found that most insurance companies are underinvesting in digital initiatives and consistently lag behind the industry's digital champions, companies that are prioritizing these investments and building digital organizations. Insurers should focus on

digitizing five key areas that require it: distribution, customer service, operations, organization and claims management.

 Increasing productivity through new ways of working

The insurers that will emerge stronger from the COVID-19 crisis will be those that, over the coming months, will address the following critical factors: cost, speed and persistence. Many will need to cut costs without compromising key capabilities. The ability to react quickly to circumstances such as changes in demand will have a major impact on insurers' efforts to reduce claims and make the most of new opportunities. All companies have realized that the critical systems they depend on are very fragile and need resilient operating systems. The ability to operate with agility will be the key to success.

 Adopting scenario thinking

As they face greater uncertainty about the macro environment, companies must face increasing challenges in a less predictable world. Due to the lessons learned from the unexpected impact of COVID-19, more insurers are moving towards advanced scenario analysis. This approach allows management to explore the effect of strategy and tactics in various scenarios, quickly calculate the impact of deteriorating conditions on the business (such as capital, margins and liquidity), identify risks, concentrations between exposures and re-evaluate existing business assumptions and financial measures.

 Optimizing the business portfolio through smart mergers and acquisitions

M&A is a key strategy for increasing capital productivity by realigning the business portfolio and improving strategic position. Future-watching underwriters will use this crisis to evaluate and pursue both buying and selling opportunities.

Bottom line: insurers have a tough road ahead. This could become even more difficult if the global economic recovery is long-lasting or if COVID-19 returns in force. But as Albert Einstein said "in the midst of difficulty lies opportunity". Now is a good time for hard-working insurers to act.

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PANDEMIC. A NON-LINEAR ANALYSIS

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Abstract:

In this paper we investigate the impact of Bitcoin, Gold and S&P Index on BET index in order to test the Safe Havens hypothesis during COVID-19 Pandemic. Using daily data covering 2019-2021 period we find that BET index returns is sensitive to S&P Index returns regardless the information's surrounding the USA economy and the political environment. Furthermore, the Gold return exhibit a positive impact on BET Index Return indicating that the higher the return of Gold, the higher the profit of traders investing on BET Index. Finally, we find strong empirical evidences indicating that BITCOIN, Gold and S&P are not safe havens relative to BET Index.

Keywords: *Bitcoin, Gold, quantile regression, threshold regression*

JEL classification: *E62, H21, O23*

Introduction

Covid-19 set an unprecedented impact over the economy with big meltdowns on stock markets worldwide. Few examples are the US Dow Jones Index DJIA which fell by 2997 points mid-March, the French CAC 40 that decreased by 9% in just a day, the NSE50 that lost more than a fourth of its value on March 2020. US regulations implemented three levels of a circuit breaker, which are set to stop trading when the S&P 500 Index drops at 7%, 13%, and 20%, and in March 2020 these have been triggered four times.

Normally, in times of market turmoil, the investors search and move towards safe-haven assets in order to protect their investments. One of these assets is Gold which has played a role of currency throughout its long and rich history and often used as a liquidity source and a portfolio stabilizer. **Van Hoang et al. (2016)** found Gold to be a useful hedging tool against inflation in the USA and UK. **Elder et al. (2012)** states that gold reacts counter-cyclically to macroeconomic news and it not only maintains its value during times when equity market indices tumble, but sometimes even increases in value.

Taking into consideration the behavioral aspect the decision to buy gold is very well rooted, moreover we are showing biases towards this sort of commodity (**Baur and McDermott, 2016**) and some authors even state that the occasional bubbles in the prices of Gold are results of the "flight to safety" phenomenon (**Zhao et al., 2015**). **Beckmann et al. (2015)** demonstrated that on the UK Stock Market gold is a strong safe-haven, while on the Swiss, German, French and Italian it is a weak safe-haven. Also, on the US stock market in conditions of extremely low or high volatility, **Hood and Malik (2013)** proved that gold doesn't behave as a good hedging tool or safe-haven as it doesn't show a negative correlation.

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As the blockchain technology evolves and more and more cryptocurrencies appear on the crypto market, researchers are trying to analyses if any of them might be used as safe-haven assets, but the results are even more ambiguous. **Smales (2019)** is considering the extremely high volatility and long-term risk of Bitcoin as being incompatible with any characteristics of a safe-haven.

In their paper, **Baur and Lucey (2010)** provided the definition for hedge, diversifier, and safe haven in the light of a growing array of financial instruments that has raised the risk of the financial system: „*Hedge: An asset that is uncorrelated or negatively correlated with another asset or portfolio on average. A strict hedge is (strictly) negatively correlated with another asset or a portfolio on average. Diversifier: An asset that is positively (but not perfectly correlated) with another asset or portfolio on average. Safe haven: An asset that is uncorrelated or negatively correlated with another asset or portfolio in times of market stress or turmoil*."

Although one can argue that Bitcoin has little to no connection with the real economy as that is one of the reasons behind its creation so that no banks or governments can interfere, the fact that cryptocurrencies are highly volatile and easily manipulable is well established. Bitcoin in particular is very prone to high volatility, induced by traders that act under a heard effect and buy or sell large amount in a short period of time, and as demonstrated by **Gandal et al. (2018)** the Bitcoin Bubble of 2013 was caused by just two investors that managed through their activity to cause a significant price increase. **Caferra et at (2021)** concluded via an event study analysis that traders move capital from commodities and stock market to Bitcoin in case of positive events of the cryptocurrency.

In another paper **Będowska-Sójka, and Kliber(2021)** tried to determine if Gold, Bitcoin or Ether can be potential safe-haven assets for four stock price indices (S&P500, DAX, STOXX600, and FTSE250) and concluded that only gold could play this role, but during the crisis caused by the coronavirus outbreak it didn't act as a strong safe-haven. According to them, Bitcoin cannot be considered a safe-haven for any of the indices, but only be regarded as a weak one against FTSE250 and DAX. Similar situation is valid for Ether where it shows weak safe haven characteristics for all four indices.

Against this background it is of interest to investigate how BET index is influenced by Bitcoin, Gold and S&P, considering low and high regimes of economic uncertainty in USA. In this paper we investigate these aspects and provide some interesting facts that might be useful to investors on Bucharest Stock Exchange and regulators.

The reminder of the paper is structured as follows: Section 2 presents the data and the econometric approach; Section 3 is summarizing the results while section 4 concludes the paper.

Methodology and Data

To investigate the nonlinear impact exerted by different covariates on BET index on we use a threshold regression model (**Tong, 1983; Hansen, 2011**). These methods are alternatives to standard OLS method in order to capture the asymmetric patterns or the structural breaks which are usually describing the evolution of financial time series. A threshold regression with two regions can be described by Eq. (1):

$$y_t = \begin{cases} x_t\beta + z_t\delta_1 + \epsilon_t, & -\infty < w_t \leq \gamma \\ x_t\beta + z_t\delta_2 + \epsilon_t, & \gamma < w_t \leq \infty \end{cases}. \quad (1)$$

In Eq. (1), y_t is the dependent variable (BET Index return), the explanatory factors exhibiting a constant impact on the dependent variables are given by x_t and might contain lagged values of y_t while z_t is a matrix of independent variables featuring some region-specific coefficients

captured by δ_1 and δ_2. Furthermore, β is a vector containing region-invariant estimates, w_t is the threshold variable given EPU index while ϵ_t is an IID error term with zero mean and constant variance σ^2.
Region 1 holds those data associated with w_t lower than the threshold γ. Similarly, Region 2 holds those data associated with w_t greater than γ. The superiority brought by including a threshold in the baseline model resides from delineating one state from another. The output of the estimation consists of a set of coefficients up to the threshold and another set of coefficients (another effect) beyond it.
Estimating γ, which is a nuisance parameter is a difficult task mainly due to its nonstandard asymptotic distribution. Thus, to identify the threshold value ($\hat{\gamma}$) requires performing the least square optimization to Eq. (2) with T observations and two regions:

$$y_t = x_t\beta + z_t\delta_1 I(-\infty < w_t \leq \gamma) + z_t\delta_2 I(\gamma < w_t \leq \infty) + \epsilon_t. \quad (2)$$

The threshold is estimated based on the following minimization algorithm:

$$\hat{\gamma} = \arg min_{\gamma \in \Gamma} S_{T_1}(\gamma). \quad (3)$$

In Eq. (3), $\Gamma \in (-\infty, \infty)$, $T_1$is a sequence of values in w_t, with $T_1 < T$ and corresponds to the number of observations between two certain quantiles of w_t distribution. In addition, $S_{T_1}(\gamma)$ can be computed as:

$$S_{T_1}(\gamma) = \sum_{t=1}^{T} [y_t - x_t\beta - z_t\delta_1 I(-\infty < w_t \leq \gamma) - z_t\delta_2 I(\gamma < w_t \leq \infty)]^2. \quad (4)$$

Eq. (4) represents a $T_1 x1$ vector of SSR given γ which is a $T_1 x1$ vector of potential thresholds.

In this paper we rely on a sample covering 2019 to 2021 period. The dependent variable is the daily return of the BET Index. As covariates we include the lagged returns of the BET Index, the BITCOIN returns, Gold returns and S&P returns. The threshold variable is the EPU index. All financial data are extracted from Refinitiv while records from EPU Index are extracted from https://www.policyuncertainty.com/ . Figures 1, 2, and 3 present the evolution of the BET index compared to the ones of the covariates.

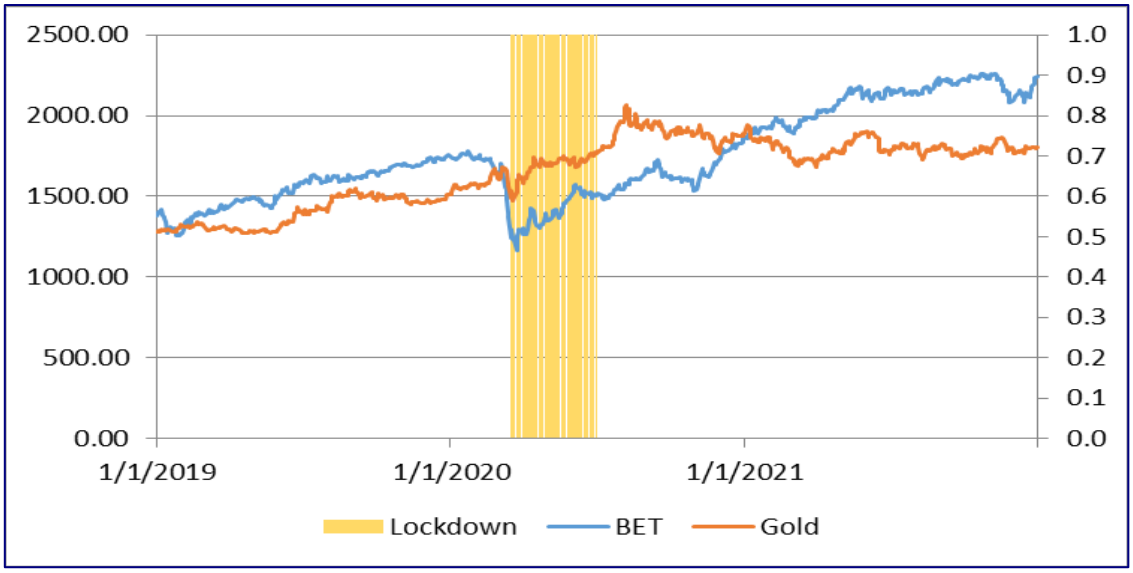

Figure 1 – BET vs Gold (2019-2021)

Source: own processing

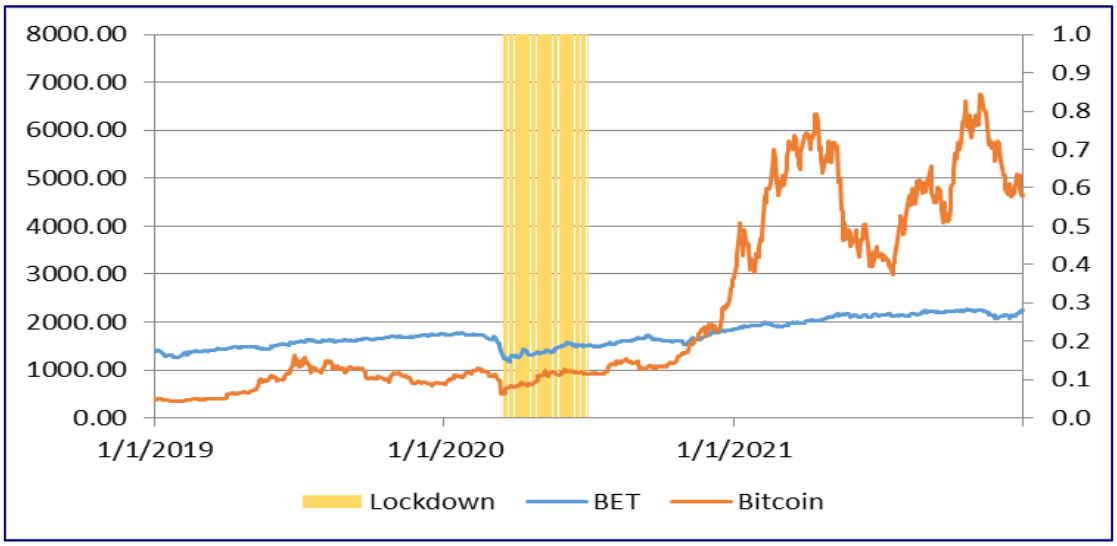

Figure 2 – BET vs BITCOIN/10 (2019-2021)

Source: own processing

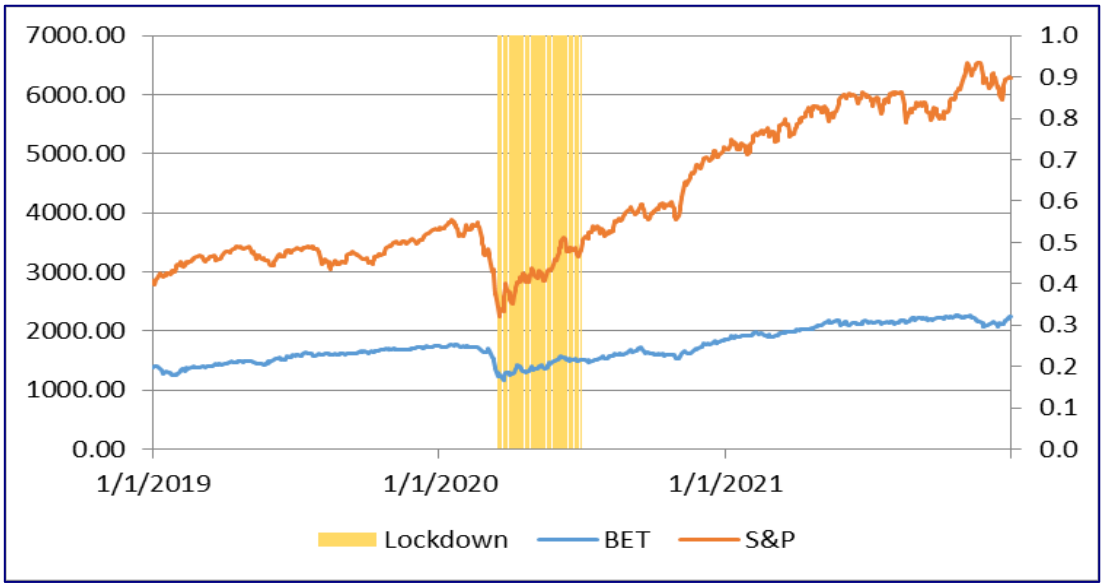

Figure 3 – BET vs S&P (2019-2021)

Source: own processing

Results

The first step of the empirical analysis is to investigate the stationarity of the data. We will use the ADF test to investigate the risk of running spurios regression due to non-stationarity behavior of the data series. The results are presented in Table 1:

Table 1

ADF test

Variables	Level		First Difference	
	Test Value	Prob	Test Value	Prob
BET	-0.6011	0.8676	-16.7813	0.0000
Gold	-1.7060	0.4279	-28.2858	0.0000
Bitcoin	-0.7917	0.8204	-29.1871	0.0000
S&P	-0.4361	0.9003	-16.5563	0.0000
EPU	-3.3928	0.0115	-18.3004	0.0000

Source: own calculation

All the covariates present a unit root in the level and became stationary after the first difference. The threshold variable, EPU Index is stationary in both, level and the first difference. For this reason, we will estimate the baseline model using daily percentage change for BET, BITCOIN, Gold and S&P and the level for EPU. To account for some autoregressive effects on the time series we will also include the lagged dependent variables. The results are presented in Table 2:

Table 2

Threshold regression results (BET returns as dependent)

Variables	Regime 1		Regime 2	
	Coeffcient	Prob	Coeffcient	Prob
Lagged BET Return	0.0343	0.7163	-0.0400	0.6690
Gold Return	0.0840	0.3512	**0.2708**	**0.0642**
Bitcoin Return	0.0150	0.4047	-0.0355	0.4148
S&P Return	**0.2446**	**0.0004**	**0.5280**	**0.0000**
Intercept	-0.0462	0.5635	-0.0854	0.6318
EPU	<275		>275	
Observations	648		134	

Source: own calculation

As we can see in Table 1, the evolution of BET Index is influenced by the evolution of S&P Index in both regimes (EPU<275 vs. EPU>275). The impact coefficient is twice as higher in Regime 2 compared to Regime one (0.5280 vs 0.2446) indicating that the spill over effects from USA to Bucharest are more pronounced during episodes of high political uncertainty. Both coefficients are statistically significant at 1% level. Furthermore, we report a positive relationship between Gold and BET, statistically significant at 10% level in Regime 2, indicating that BET index goes hand in hand to gold price, but only in times of persistent economic uncertainty.

Conclusions

In this paper we test the existence of Safe Haven hypothesis relative to BET index. Using daily data covering 2019-2021 period we find that BET index returns is sensitive to S&P Index returns regardless the information's surouning the USA economy and the political environment. Furthermore, the Gold return exhibit a positive impact on BET Index Return indicating that the

higher the return of Gold, the higher the profit of traders investing on BET Index. Finally, we find strong empirical evidences indicating that BITCOIN, Gold and S&P are not safe havens relative to BET Index.

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MODELING THE PROCESS OF IMPLEMENTING BANKING INNOVATIONS IN A DIGITAL ECONOMY

Victoria POSTOLACHE[44]

Natalia BRANAȘCO[45]

Abstract. Financial technologies have a significant impact on the functioning of the modern banking system. Technological companies such as Google, Microsoft, Intel, which previously did not provide banking products and services, are starting to play an increasingly important role in this industry. The objective need to modify approaches to the formation of innovative banking infrastructure and the implementation of modern financial and credit methods for managing banking innovations increases the importance of studying the processes of interbank competition.

The article examines the changes in the main components of the innovative banking system under the influence of digital technologies. Special attention is also paid to the need to shape the process of introducing banking innovations into the digital economy.

The object of the research is banking innovations and features of their development in the digital economy.

Keywords: financial technologies, banking innovations, digital economy.

JEL Classification: G21

1. Introduction

The introduction of banking innovations in the context of the digitalization of the economy is characterized by the following: the evolution of the national payment system takes place, which acts as a basic element for ensuring efficient banking operations and is based on digital technologies, ensuring the increase of banking business profits while the margin of banking services decreases.

The introduction of banking innovations in the development of additional banking products makes it possible to meet the growing needs of the client sector, which, compared to traditional banking services, will make it possible to form priority areas: the development of fast operations with low costs; creation and implementation of customized products and financial services; formation of the bank's presence in all forms of interaction with the consumer; building algorithms for obtaining intelligent solutions; coverage of new social groups of consumers of banking services in the financial market through telecommunication networks.

The main advantage of introducing banking innovations in the context of digitalization of the economy based on mobile banking technologies is undoubtedly the reduction of banking costs for customer service.

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Table 1.

Analysis of traditional and digital banking models

Analysis criteria	Traditional model	Digital model
Customer service time frame	Working hours are limited by the working hours	24/7, limited by transaction confirmation time
Speed of customer transactions	Due to the qualifications of the operational employee of the bank	Immediate
Threading customer service	Flexible and multi-channel, through an accessible and convenient communication channel for the customer	Flexible, limited by the variety of service channels available
Cost of service charge	Includes bank, staff and departmental expense items	It depends on software support or is offered for free
Legal status of an operational officer in the banking process	Bank employee confirming the operation	The bank customer forms and confirms

2. Description of the problem

The development of banking activities in the context of the digitalization of the economy creates the need to develop the following elements of a program to achieve the target financial condition of the bank's activities: a model for predicting threats and determining the level of financial security of the bank in the context of digitalization; financial plan for the development of the bank in terms of innovation; bank's financial flow management strategy; automated assessment of the effectiveness of the implementation of the bank's strategy. The mechanism for the formation of a program to achieve the target state of the bank's activities in the digital economy is shown in figure 1.

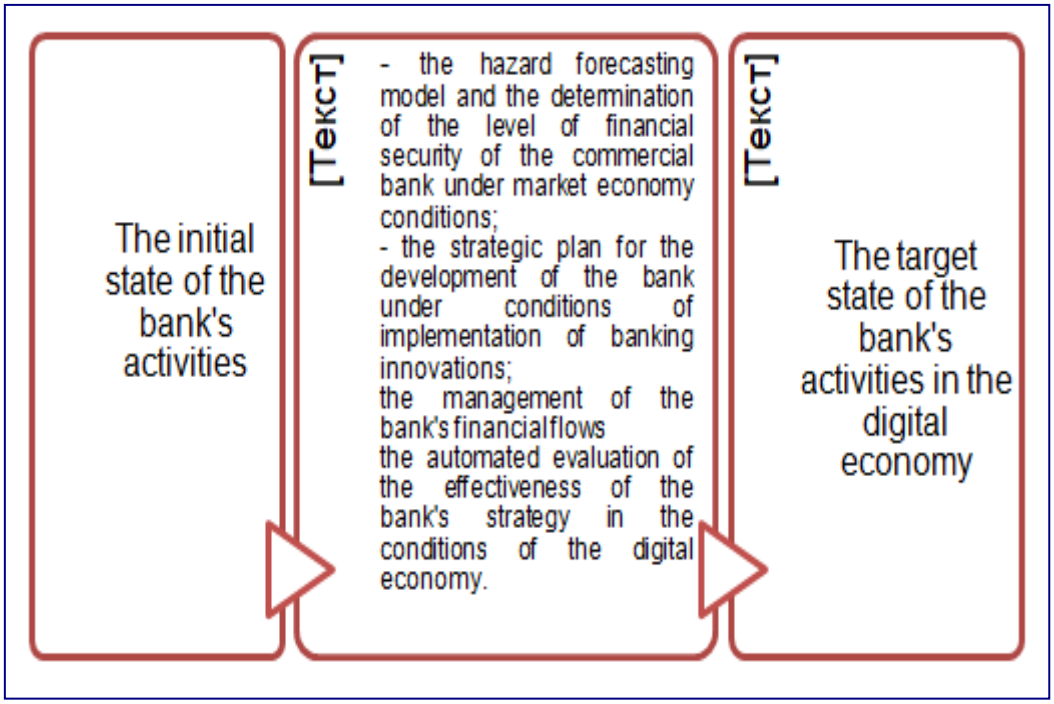
The initial state of the bank's activities
[Текст]
- the hazard forecasting model and the determination of the level of financial security of the commercial bank under market economy conditions;
- the strategic plan for the development of the bank under conditions of implementation of banking innovations;
the management of the bank's financialflows
the automated evaluation of the effectiveness of the bank's strategy in the conditions of the digital economy.
[Текст]
The target state of the bank's activities in the digital economy

Figure 1. Formation of a program to achieve the target state of the bank's activities in the digital economy

Source*:* elaborated by the author

The timely introduction of banking innovations in the context of the digitalization of the economy will create a unique digital space that will include the banking business and the digital environment.

The main message in creating a modern concept of working with customers, partners and counterparties aims at a transformation both external and internal. The transformation vector is changing and targeting the customer, and not the conditions and requirements for providing a banking product. This principle is at the heart of modern business and is aimed at creating innovative open banking ecosystems that replace classic communication channels.

The step-by-step global goal of developing modern banking services in the context of digitalization is to create a barrier-free environment for the provision and receipt of services by bank customers and their needs. The main obstacle to the growth of innovative digital banks is the current legislation. The insufficient development of digital customer service channels is hampered by the low financial literacy of customers and their fears of transferring all their settlements and interaction with the bank to a non-cash format. Expert opinion indicates a low willingness to carry out the transformation of banking automation tools and software that does not have a high degree of customization, coordination with the new software, which makes it difficult for them to fully function and complicates the shortage of highly qualified engineers and developers. The presented mechanism, which shows the transformation of the national banking system in the light of the influence of significant factors, is presented in figure 2.

The research conducted helped to underpin three basic approaches to the digital transformation of the banking sector.

The first approach is based on the introduction of banking innovations, which are their own project, which do not include the transformation functions in the digital environment under construction, the ongoing digital transformations being implemented in stages, based on long-term planning and the development of pilot projects, this approach is followed by 26% of banks in the global financial environment [6].

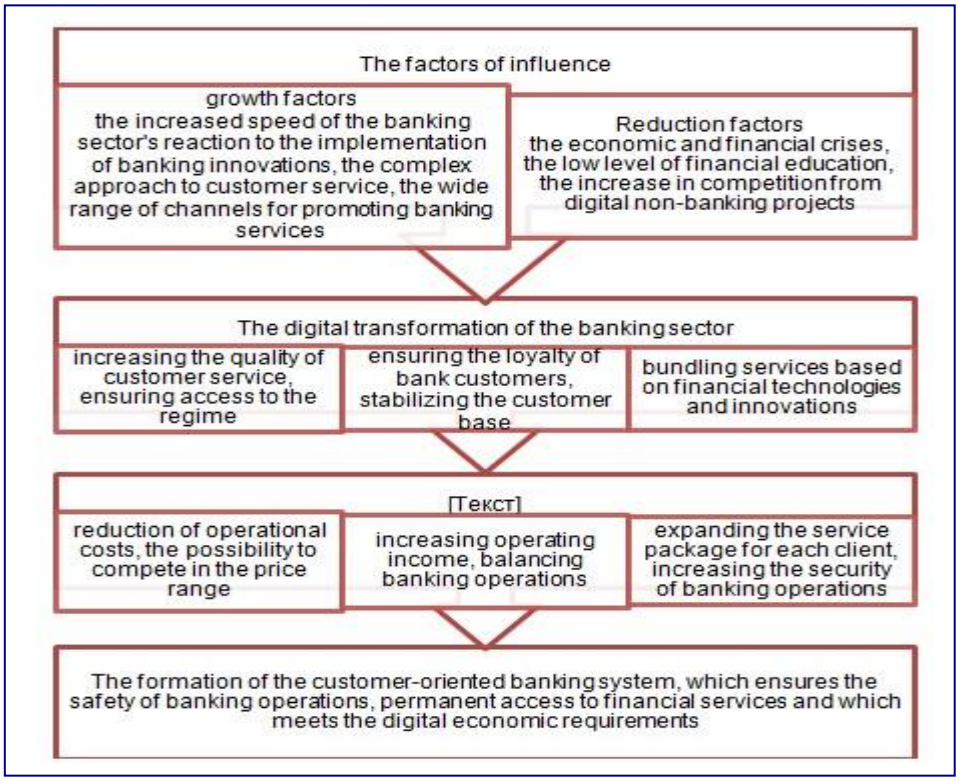
The factors of influence
growth factors
the increased speed of the banking sector's reaction to the implementation of banking innovations, the complex approach to customer service, the wide range of channels for promoting banking services
Reduction factors
the economic and financial crises, the low level of financial education, the increase in competition from digital non-banking projects
The digital transformation of the banking sector
increasing the quality of customer service, ensuring access to the regime
ensuring the loyalty of bank customers, stabilizing the customer base
bundling services based on financial technologies and innovations
[Текст]
reduction of operational costs, the possibility to compete in the price range
increasing operating income, balancing banking operations
expanding the service package for each client, increasing the security of banking operations
The formation of the customer-oriented banking system, which ensures the safety of banking operations, permanent access to financial services and which meets the digital economic requirements

Figure 2. Mechanism of transformation of the banking sector with regard to the implementation of banking innovations in the conditions of digitalization

Source: elaborated by the author

The second approach is implemented through pilot projects, the development and implementation of which include subsidiary financial companies, activities and software based on the requirements of the digital economy. 42% of banks pass through digital transformation. The main advantage of this approach is client-oriented; the long-term needs of clients are at the head. The structure of the bank is created on the basis of teams led by specialists in different areas: - information technologies, software, analytics and marketing. This approach brings high flexibility to the built organizational structure, allows testing of innovative directions within the structure, without affecting the working directions.

The third approach to the digital transformation of the banking structure is to recognize the primacy of the implementation of banking innovations - which are the main value of the organization. The detailed construction of the structure may use elements of other approaches, but within the framework of the full implementation of the digital strategy, through the transformation of both internal and external technological processes of the bank. This direction of implementation of digital transformation is carried out by 32% of banks.

Digitization includes great potential for the development of financial services and the entire banking sector, but it is necessary to remember the increasing risks and dangers associated with the growth of electronic networks. The main risk is the loss of national digital sovereignty with all the resulting consequences, which suggests the need to strengthen and ensure cyber security in the digital banking ecosystem that is being built. It is necessary to carry out calculation and constant monitoring of increasing risks, when implementing new technologies, do not get carried away by the game of getting ahead. At the same time, financial technologies are the instruments of risk management by banking specialists, who take weighted decisions on most of the problems and issues that arise.

By characterizing banking innovations, a parallel is made precisely with the digitization process, linking it with the development of the banking sector as a whole, the reduction of costs through a single digital platform and the close interaction with consumers involved in the process of creating and providing banking and non-banking services (related services) (figure 3).

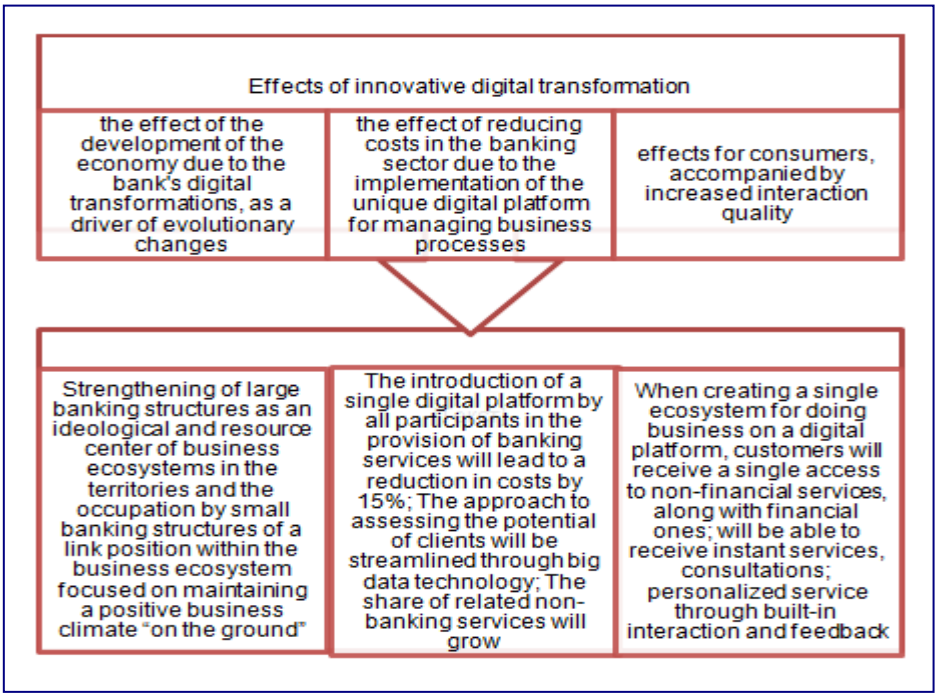
Effects of innovative digital transformation
the effect of the development of the economy due to the bank's digital transformations, as a driver of evolutionary changes
the effect of reducing costs in the banking sector due to the implementation of the unique digital platform for managing business processes
effects for consumers, accompanied by increased interaction quality
Strengthening of large banking structures as an ideological and resource center of business ecosystems in the territories and the occupation by small banking structures of a link position within the business ecosystem focused on maintaining a positive business climate "on the ground"
The introduction of a single digital platform by all participants in the provision of banking services will lead to a reduction in costs by 15%; The approach to assessing the potential of clients will be streamlined through big data technology; The share of related non-banking services will grow
When creating a single ecosystem for doing business on a digital platform, customers will receive a single access to non-financial services, along with financial ones; will be able to receive instant services, consultations; personalized service through built-in interaction and feedback

Figure 3. Effects of innovative digital transformation of the banking sector

Source: elaborated by the author

As part of the trends involving the transformation of banking in the context of digitalization, two priority areas are noted: one of them is the production of new banking products created and provided on the basis of digital technologies; the second direction involves the strengthening of interaction with companies operating outside the banking sector, and the creation together with them of non-banking products that are of value to consumers in the form of related content, services to classic banking products.

3. Methodology and Data Sources

In today's banking business, bank leaders focus on three key areas of activity: customers, operations, and business models. It is in these three directions that
transformation.
Bank clients become not just consumers of services, but their generator. Based on available technologies, banks collect a large amount of data about the client, his requests and are able to form and offer him the necessary service or their complex, while they will be provided in a format convenient for the client. Changes in the client structure also have an impact on the technologies used by the bank.
The introduction of systems that allow collecting the maximum amount of information about the client and, as a result, making it possible to form a “picture of the modern consumer” and, on its basis, offer an actual service, is a competitive advantage.
Comparison of traditional and digital banking is presented in tables 2.

Table 2.

Comparison of traditional and digital banking

Traditional bank	Digital bank
All experience and knowledge about the client is concentrated at a certain point of service, a branch of the bank	The focus of knowledge about the client and client experience is the client himself
The branch or office of the bank is the starting point of interaction with the client	The client himself chooses how it is more convenient for him to start interacting with the bank, in order to start communication it is not necessary to come to the office
Digital services are an extension of the services of the branch where the client is served	Digital services are at the center of the model
Customer service regardless of the branch	Products and services are standardized Products and services are developed under customer needs
Customer knowledge and service experience can be different depending on the service channel	Omnichannel, experience and knowledge about the client are accumulated at one point, regardless of service channel
The distance to the branch matters, the client must be able to physically get to the bank	The client can be physically anywhere, the distance to the bank office does not matter

Source: 1, p.12

In order to compare the 2 types of banking activity, it is necessary to mention that traditional banking involves the use of cash payments, and the innovative one involves the presence of cashless settlements, using for example bank cards. In the banking system of the Republic of

Moldova, different types of cards are accepted for payment, which offer unlimited access to the money in the bank account. Table 3 shows the results reported per banking system in the card classification chapter according to the type of technical solution.
The results presented in the table indicate an upward evolution of the number of cards in circulation from 1736 thousand units to 2350 thousand units, due to the considerable increase of proximity cards from 645 thousand units to 2178 thousand units. Hybrid cards in the domestic payment system decreased from 1022 thousand units to 169 thousand units, which indicates the lack of interest in them. The same trend was present for magnetic stripe cards, and virtual cards remained practically constant during the analyzed period. Thus, the population of the Republic of Moldova successfully uses the innovations of the banking business, but still has reticence regarding the type of cards that are made available by local banks.

Table 3.

Cards issued by payment service providers from the Republic of Moldova

Analyzed period	017	018	019	020	021
on the type of technical solution					
proximity card (contactless)	645332	966465	1392338	1748825	2178272
hybrid card	1022508	913346	610757	428492	169518
magnetic stripe card	64024	53151	7025	2580	502
virtual card	4192	3303	2446	2179	2126
The number of cards in circulation at the end of the analyzed period - total	1736056	1936265	2012566	2182076	2350418

Source: elaborated by the author based on data from https://www.bnm.md/bdi/pages/reports/dsp/DSP1.xhtml

The main field for the implementation of digital economy methods in the banking sector is the use of intelligent computing, big data technologies based on the integration of robotics and machine learning, in other words, data and knowledge-based management, or, in other words, Data Driven & Data Science. A classic example is BPM-systems (business process management) - business process management, which involves the use of automation tools and the integration of information technologies necessary in the process of making managerial decisions.

4. Results and discussion

In order to carry out a successful digital transformation in the banking services market in the format of modeling the process of introducing banking innovations in accordance with the key areas given earlier, it is necessary, in addition to the technological platform, to carry out a number of organizational transformations in the internal environment of the banking structure, as well as targeted work with representatives of the external environment; along with this, it is necessary to form a strategy for the introduction of banking innovations and strives, in a series of successive steps, to implement it. In this context, a number of researchers rightly point out

the need to demonstrate “internal flexibility” and the ability to work with partners as part of building a digital business ecosystem, in this case in the banking sector [3]. The digital banking ecosystem implies a single platform for solutions and communications based on the formation of cross-channels.
Internal organizational transformations also concern the personnel potential of employees in terms of its possible expansion by attracting specialists who are not directly related to digital technologies, but are in demand in promising areas for the bank due to the emergence of resources accumulated from profit growth due to the introduction of digital innovative solutions [4] Various organizations, including banks, in such conditions seek to attract personnel with broad competencies, which makes it possible to make a profit through the introduction of banking innovations in the context of the digitalization of the economy [2].
The general directions of transformations in the internal and external environment of the bank, necessary for the full implementation of digital innovations in banking activities, can be presented as follows (figure 4).

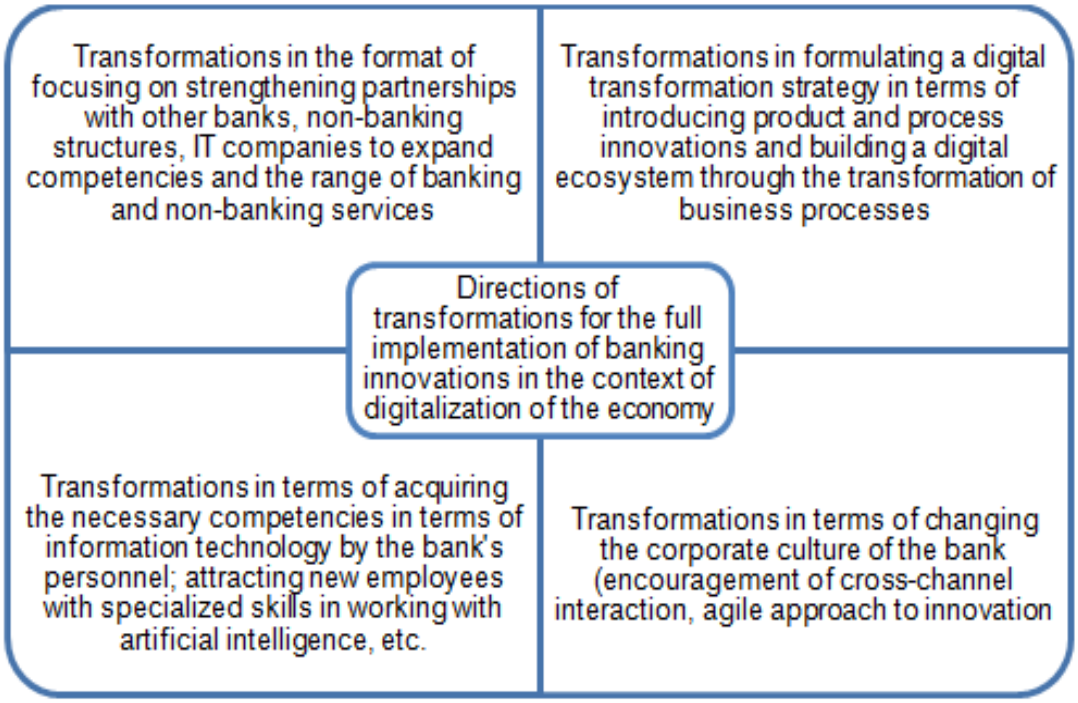
Transformations in the format of focusing on strengthening partnerships with other banks, non-banking structures, IT companies to expand competencies and the range of banking and non-banking services
Transformations in formulating a digital transformation strategy in terms of introducing product and process innovations and building a digital ecosystem through the transformation of business processes
Directions of transformations for the full implementation of banking innovations in the context of digitalization of the economy
Transformations in terms of acquiring the necessary competencies in terms of information technology by the bank's personnel; attracting new employees with specialized skills in working with artificial intelligence, etc.
Transformations in terms of changing the corporate culture of the bank (encouragement of cross-channel interaction, agile approach to innovation

Figure 4. General directions of transformations in the internal and external environment of the bank, necessary for the full implementation of banking innovations in the context of digitalization of the economy

Source*:* elaborated by the author based on 7

It should be noted that the options for modeling the process of introducing banking innovations in the digital economy, consisting in the activation of product innovations, the introduction of process innovations and innovations in the business model, namely the construction of a banking business ecosystem, ideally, built into an ecosystem of a higher level, can be effectively implemented and should be developed on the basis of a cross-channel banking infrastructure, which is the basis, "cementing" element of the digital innovative transformation of banking.
For this reason, the very process of introducing banking innovations in the digital economy is based precisely on the successful development of a cross-channel banking infrastructure that

allows the formation of a banking ecosystem and its congruent integration into a higher-level digital ecosystem.
In the digital banking ecosystem, the key parameter that ensures the conditions for its well-coordinated and mutually beneficial work is mutual trust, transparency in the creation of new products or services and the provision of existing ones. This means the need for a simultaneous transition to a single digital platform by all participants in the emerging banking ecosystem based on the use of modern cross-channel banking infrastructure.

5. Conclusions

The innovative approach to banking used today forms the conditions for the expansion of banking products and services, involves the evolution of customer service in the bank, which determines the level of efficiency in the development of banking services. The growth in quality and the expansion of the banking product line are based not only on their development, but also on the growth of information transparency in terms of obtaining information by bank customers, directly by banks.
The influence and development of the implementation of banking innovations, the penetration of digitization in all spheres of banking activity, will inevitably lead to the transformation of the banking sector of the economy. Digitization of banking activity carries significant advantages for end users of banking services, banks and the state. Innovative-technological development in the banking sector creates prerequisites for the formation of a perfect financial system, which inevitably contributes to the growth of public-economic development. In the process of developing optimal innovative and technological strategies for the development of banking services and technologies, it is necessary to calculate the positive advantages, but it is also necessary to forecast possible negative consequences and take into account the requirements for the safe transition of banking operations to the area of digitization and electronic payments.

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SECTION III. SUSTAINABLE DEVELOPMENT AND INCLUSIVE ECONOMIC GROWTH

BUILDING A COMPETITIVE, LOW-CARBON AND CLIMATE CHANGE-RESILIENT ECONOMY

Georgiana CHIȚIGA[46]

Abstract: *The effects of climate change are becoming more and more visible; they are already manifesting themselves and are intensifying due to the increasing accumulation of greenhouse gas (GHG). The starting point of the article is the presentation of the situation in which we find ourselves, Europe's commitment in the field of combating climate change, in achieving zero emissions of greenhouse gas.*

The potential to reduce GHG emissions exists, both at the EU level and in Romania. Firm actions are required, both on the part of governments, citizens and the private sector in the direction of their reduction, through new solutions and technologies, and, simultaneously, for practical adaptation to the new realities. We will highlight the challenges that await us.

Keywords: *climate change, reducing greenhouse gas emissions, solutions.*

JEL classification*: Q56.*

Introduction

The effects of global warming are real. To combat climate change and build a strong green economy and society, the focus at EU level is to reduce net greenhouse gas emissions. The EU participates in global efforts to reduce greenhouse gas emissions, aiming to reduce its emissions by 40% by 2030 and 80-95% by 2050, and the European Commission is responsible for reviewing data reported by Member States with on current and projected emissions, as well as proposing EU policies and measures to achieve emission reduction targets.

The EU has proven that it can reduce emissions with economic growth and should do the same under the new 2030 target. For European citizens and the EU, this more ambitious target will mean a cleaner environment, lower health costs , new jobs and a more sustainable diet, increased energy security, greener transport and more energy efficient homes.

The realization of a modernized and resilient European economy envisages: reducing atmospheric pollution by 60% by 2030; improving living conditions and health – EUR 110 billion lower health costs by 2030; clean public transport and reducing pollution; new green, local jobs; cleaner energy; improved energy security and savings of EUR 100 billion by 2030 due to reduced imports; reducing the action burden for future generations.

The 2030 climate and energy framework include policy targets and objectives at EU level for the period 2021-2030.

Key Objectives:

- reduction of greenhouse gas emissions by at least 40% (compared to the level of 1990);

- over 32% share of renewable energy;

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- at least 32.5% improvement in energy efficiency.

All three will contribute to achieving the proposed objective of reducing net greenhouse gas emissions, which is registered as an increased ambition at the level of the whole of Europe.

The transition to climate neutrality requires increasing ambitions in the field of environment, energy and climate, ambitions reflected in the unitary approach provided through the European Green Deal, and implicitly in the update of the 2030 Framework in the field of energy-climate change, which provided for a reduction target to EU level of greenhouse gas emissions of 40% compared to the 1990 level.

The decarbonization process requires a balanced approach to the climate and energy transition effort, both at the industrial and social levels. Thus, the Fit for 55 package of legislative measures, part of the European Ecological Pact, which aims to reduce greenhouse gas emissions by at least 55% by 2030 at the EU level, will represent both a challenge and an opportunity at the level of all member states.

Under the conditions of the new sustainable and resilient approaches from the climate point of view, Romania will have to identify its areas with development potential, which will be able to bring competitive advantages in the medium and long term. In this regard, the present study intends to provide an analysis of the current and existing situation and solutions on the way to building a competitive, low-carbon and climate-resilient economy.

The current situation

It is an important moment. In order to understand how to act, it is necessary to have a clear and real picture of the situation in which we are positioned.

The climate crisis is present, the large-scale climate changes of recent years are of an unprecedented scale in the context of the entire history of mankind, and climate risks are now appearing faster and becoming more pronounced.

It is a pivotal decade for decisions and investments that will define the scale of irreversible changes and losses that lie ahead. In order to achieve the goal of the Paris Agreement, there are still ways to substantially limit future damage, risk and loss, and to enable many options for adaptation, but the window of time in which we can act is rapidly shrinking.

Actions must be focused on measures to mitigate the effects of climate change, requiring the assessment of different alternatives for the decisive years ahead as greenhouse gas emissions continue to be a major problem.

EU emissions (total excluding land use, land use change and forestry (LULUCF)), by pollutant, in 2020 were: 80% CO2, 11% methane (CH4), 6% nitrous oxide (N2O), 2% hydrofluorocarbons (HFCs) and less than 0.2% other substances: perfluorocarbons (PFCs), sulfur hexafluoride (SF6), nitrogen trifluoride (NF3).

CO2 is the greenhouse gas released in the largest quantity, being constantly produced by human activities. Other greenhouse gases are emitted in smaller amounts but trap much more heat than CO2, such as methane which is 80 times more potent than CO2 over a 20-year period.

From a historical perspective, Our World in Data estimates indicate that Romania has a share of CO2 emissions per capita of 0.22% compared to global annual CO2 emissions. (Figure 1)

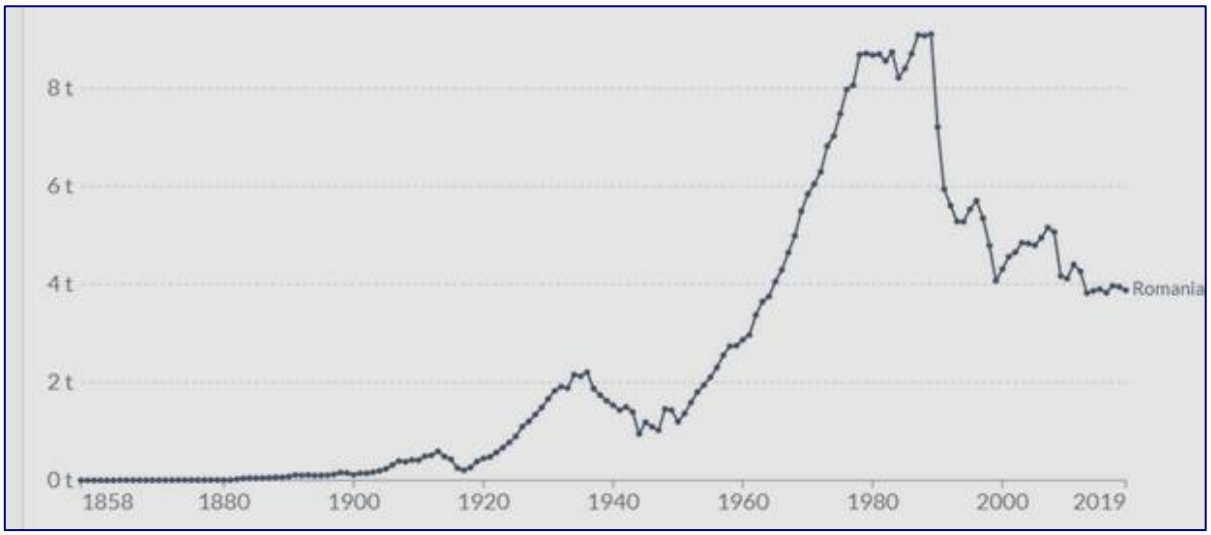

Figure 1: CO2 emissions per capita in Romania

Sursa: Our World in Data based on Global Carbon Project; BP; Maddison; UNWPP; https://ourworldindata.org/co2/country/romania

Note: carbon dioxide emissions from burning fossil fuels for power and cement production were taken into account.

From a historical perspective, a downward trend in CO2 emissions can be observed in Romania.

At decade level, the tendency to reduce GHG emissions can be distributed as follows:

- 1980 – there is a peak in value growth, but with an overall tendency of decreasing emissions (8.68 t);
- 1990 – the downward trend in GHG emissions continues at a higher rate than in the previous decade (7.21 t);
- 2000 – accelerated rate of decrease in GHG emissions (RO: 4.31 t);
- 2017 – the accelerated downward trend in GHG emissions continues (RO: 3.97 t).

- Between 2010 and 2019, global emissions growth was slower than in the previous decade. However, total net greenhouse gas (GHG) emissions are now 54% higher than in 1990, the year international climate negotiations began. (Table 1)

- In developed countries as a group, fossil fuel emissions have fallen by about 10% since 2010.

At least 18 of these have recorded a decade of absolute emissions decline. However, they have remained so high that none have reduced their emissions at the rate required to meet the 1.5°C warming limit.

Tabel1

Total greenhouse gas emissions* at EU level

(kilotons of CO2 equivalent**)

EU member countries	Total greenhouse gas emissions
Belgium	116.651
Bulgaria	55.955
Czech Republic	122.639
Denmark	45.812
Germany	809.799
Estonia	14.699
Ireland	59.778
Greece	85.631
Spain	314.529
France	442,985
Croatia	23.605
Italy	418.281
CYPRUS	8.842
Latvia	11.132
Lithuania	20.368
Luxembourg	10.742
Hungary	64.433
Malta	2.175
Netherlands	180.309
Austria	79.842
Poland	390.745
Portugal	63.470
Romania	*111.767*
Slovenia	17.065
Slovakia	39.948
Finland	53.021
Sweden	50.920
Total	**3.612.361**

Source: United Nations Framework Convention on Climate Change (UNFCCC), 2020. Note:*All sectors except land use, land use change and forestry (LULUCF); **CO2, N2O in C2O equivalent, CH4 in C2O equivalent, HFC in C2O equivalent, PFC in C2O equivalent, SF6 in C2O equivalent, NF3 in C2O equivalent

Tabel 2

The largest emitters of greenhouse gases globally

(kilotons of CO2 equivalent)

Country	Total greenhouse gas emissions
China	13.067.691
US	6.444.396
eu	3.612.361
India	3.346.954
Russia	2.233.876
Japan	1.359.553
Brazil	1.229.246
Indonesia	897.159
Iran	815.652
Canada	779.870
Mexico	770.319
Saudi Arabia	709.787

South Korea	704.272
Australia	658.586
South Africa	581.471
Turkey	510.286
Pakistan	405.400
Thailand	397.109
Argentine	385.223
Kazakhstan	360.129

Source: JRC Report on fossil CO2 and greenhouse gas emissions from all countries of the world, 2020

In terms of EU greenhouse gas emissions in 2019, broken down by main sectors, there are large differences. (Table 3) Tabel 3

Tabel 3

EU greenhouse gas emissions broken down by main sectors*

(%)

Nr.	Section	Greenhouse gas emissions
1	Power	77,01
2	Industrial processes and product use	9,10
3	Agriculture	10,55
4	Waste management	3,32

Source: European Environment Agency (EEA), 2020

Note: * all sectors except land use, land use change and forestry (LULUCF) Percentages do not add up to 100% due to rounding figures used

- Regional differences in per capita emissions remain considerable. In terms of production-based emissions, North America still emits more than Europe and more than ten times more than LDCs. On the other hand, East Asia (China and South Korea) currently emits more than 40% more than Europe per capita, and more than four times more than South Asia. High levels of emissions from land use led to high per capita emissions in Southeast Asia and Latin America.

- Direct and indirect climate legislation has also seen steady progress and is supported by a growing list of financial investors. However, many of the net zero goals are ambiguously defined and the policies needed to achieve them are not yet in place. Opposition, as well as insufficient low-carbon financial flows, are obstacles to the establishment and implementation of strict climate policies that cover all sectors.

In Romania's national report, at the sectoral level, regarding Romania's Greenhouse Gas Inventory 1989-2019, submitted in 2021 to the UNFCCC, the potential to reduce GHG emissions is presented as being distributed as follows:

➢ the energy sector contributed 66.72% to the total national GHG emissions in 2019, having a reduction contribution of 68.50% compared to the base year 1989.

➢ industrial processes and product use represented 11.52% of total GHG emissions in 2019, having a reduction contribution of 71.52% compared to the base year 1989. This reduction trend is associated with the decrease in industrial production at the national level .

➢ the agricultural sector contributed 50.91% to the total national GHG emissions in 2019 compared to the base year 1989, having a reduction contribution of 16.54%. This downward trend is associated with the decline of livestock, the decrease in the area cultivated with rice (from 49300 ha in 1989 to 7430 ha in 2019), the level of crop production and the application of synthetic nitrogen-based fertilizer).

➢ the LULUCF sector has a contribution of absorption/reduction of GHG emissions by 19.88% higher in 2019 compared to the base year 1989.

➢ in the waste sector, GHG emissions increased by 14.53% in 2019 compared to the base year 1989, having a reduction contribution of 5.23%.

Regarding the emission reduction potential of the ETS and non-ETS sectors, the continuation of this trend is observed in the perspective of 2030. (Figure 3)

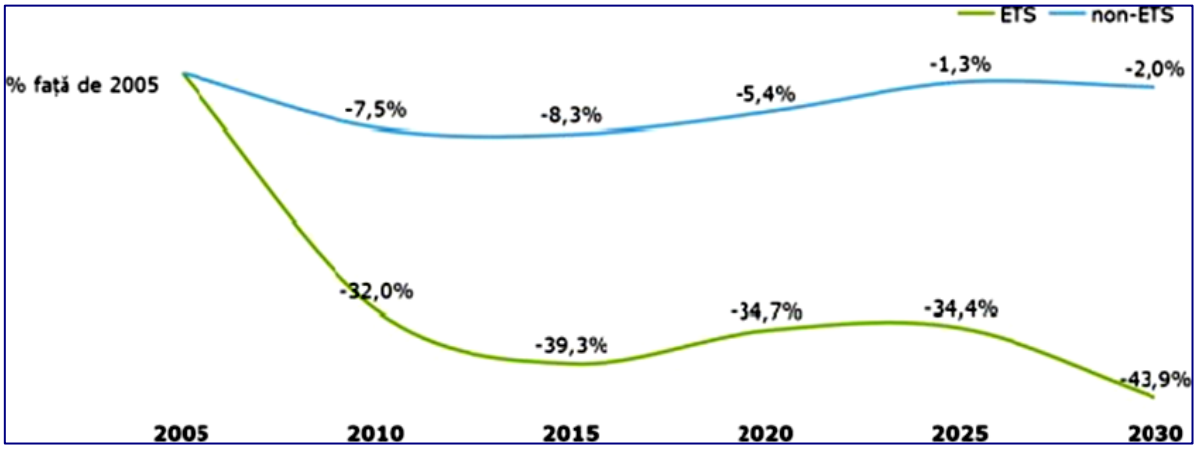

Fig. 3: Historical and projected evolution of emissions from the ETS and non-ETS sectors

Source: National Integrated Energy Climate Change Plan
https://ec.europa.eu/energy/sites/default/files/documents/ro_final_necp_main_ro.pdf

Note: Forecasts were made taking into account available policies

In the perspective of 2030, Romania has been allocated a target of reducing greenhouse gas emissions of 12.7% compared to 2005, in line with the provisions of Regulation 2018/842 on the sharing of efforts (Effort Sharing Regulation - ESR) in the case non-ETS sectors.

In order to achieve the climate ambition and support the potential to reduce GHG emissions, Romania will need the reconfiguration of the national legislative framework, especially in the case of national strategies in different sectors of activity (climate change, energy, transport and mobility).

- Implementing only countries' current emission reduction targets and policies would block compliance with the 1.5°C warming limit. While recent improvements in national targets have

narrowed the gap between required actions and countries' national plans for 2030 by around 15-20%, nationally determined contributions still use up the remaining zero-carbon budget for the 1.5°C threshold until 2030.

- The current fossil fuel infrastructure will emit more greenhouse gases than is compatible with limiting warming to 1.5°C, unless it is phased out sooner or its use is reduced. This underlines the importance of early phase-out, especially of existing fossil-fuel power plants and the cancellation of new ones, as the energy sector is relatively easy to decarbonize. Otherwise, the continued installation of fossil fuel-based infrastructure will "block" the achievement of the proposed targets.

- Progress in aligning financial flows with the objective of the Paris Agreement remains low, and the analyzed climate change financing flows are unevenly distributed between regions and sectors.

The total annual financial flows analyzed for climate change adaptation and mitigation increased by up to 60% between 2013-2014 and 2019-2020, but growth has slowed recently. Climate finance flows from developed to developing countries remain below €100 billion per year, and public and private flows to fossil fuels continue to exceed those to climate change adaptation and their mitigation.

But the actions that had a positive evolution should not be omitted:

- several low-carbon technologies have made rapid progress in terms of cost, performance and adoption – increasing the feasibility of rapid energy transitions. This is the result of a combination of policy instruments that have enabled these cost reductions and supported worldwide adoption.

- the rapid deployment and falling unit cost of modular technologies such as solar, wind and batteries have occurred much faster than experts anticipated and predicted in previous mitigation scenarios. The political, economic, social and technical feasibility of solar energy, wind energy and electricity storage technologies have improved considerably in recent years. Since 2010, the unit costs of solar energy have fallen by 85%, wind energy by 55%, and lithium-ion battery costs by 85%, while the use of solar energy has increased more than tenfold, and that of vehicles electric over a hundred times.

- the levelized costs of solar and wind energy are currently equal to or cheaper than coal and gas, even before considering the damage (externalities) caused by fossil fuels.

- starting with the IPCC Fifth Assessment Report (AR5) - Climate Change Report and continuing with the Sixth Assessment Report (AR6) - Climate Change 2022, there has been significant progress on opportunities to reduce GHG emissions from transport in a way economically efficient due to the electrification of ground vehicle systems that are now available on the market.

- there is a continuing shift in mindset regarding the opportunities for all industries to reach zero emissions, with electrification and hydrogen among the key mitigation options as renewable electricity costs rapidly fall. Regarding demand in the industrial sector, increased attention has been paid to end-use demand, material efficiency and more and better-quality recycling measures.

- also, the development of integrated approaches for the construction and modernization of buildings, has led to the expansion of the number of buildings with zero energy/carbon emissions in all climate zones.

Solutions for building a climate resilient economy

- The situation presented, the identified needs demonstrate the need for large-scale solutions, both at EU and national level.
- To meet the warming target set out in the Paris Agreement, global carbon emissions must be halved by 2030 from current (2019) levels, reaching net zero by mid-century, while all GHGs will reach net zero in 2070-2075. This is consistent with scenarios that limit warming to 1.5°C, with little or no overshoot with at least 50% certainty, and which would most likely stay below 2°C.
- Fossil fuel use must decline rapidly, with the fastest rates of decline required under scenarios targeting the 1.5°C limit, with reduced reliance on carbon dioxide removal and reduced pressure on land and biodiversity and which involve efficient use of resources. By 2050, coal *use in such scenarios would decline by up to 100%, oil by up to 90%, and gas by up to 85% from 2019 levels.*
- *Solutions exist to at least halve global GHG emissions by 2030, with more than half of this potential being no-cost, low-cost (less than $20/tCO2-eq) or negative-cost. This means that some of the options, such as solar and wind power and more efficient mobility and housing, can save money compared to continuing current trends.*
- *Important contributions to closing the gaps for 2030 could be made by: solar and wind energy, improving energy efficiency, reducing deforestation, restoring ecosystems, conserving soil carbon in agriculture and reducing CH4 emissions.*
- *The implementation of immediate and substantial emissions reductions and systemic transformations will be required in all sectors, from energy to urban systems, industry, buildings, transport, land and food systems, and in all these sectors there are solutions.*

To replace the use of fossil fuels, large-scale electrification of various end-uses in all sectors is required.

- *The agriculture, forestry and other land use (AFOLU) sector offers significant short- and long-term mitigation opportunities, while providing food, timber and other renewable resources, as well as biodiversity conservation. In total, they cover about a third of the potential by 2030, at costs below 100 euros tCO2-eq, mostly at low costs (0-20 euros tCO2-eq). If properly implemented, such actions could bring substantial co-benefits and help address many of the wider challenges associated with land management. If used inappropriately, then, together with the increasing need to produce food, animal feed, fuel and timber, they could exacerbate trade-offs in habitat conservation, adaptation, biodiversity and other services and expose millions more at risk of starvation. At the same time, the land's ability to support these functions could be threatened by climate change*
- *By 2050, comprehensive market demand strategies across all sectors could reduce GHG emissions by 40-70% compared to stated policy projections. Such "Avoid, Change and Improve" strategies aim to deliver welfare services (nutrition, mobility, shelter and products) with lower emissions by changing infrastructure design and use, adoption of end-use technology and socio-cultural factors (social norms, culture and behavior) that influence demand.*
- *Rapid and major changes in demand make it easier to reduce emissions for each sector. The greatest potential for "Avoid" comes from reducing long-haul air transport and providing low-carbon urban infrastructure for short-haul. The biggest "Switch" potential would come from switching to a plant-based diet. The greatest 'Improve' potential comes from the construction sector, and in particular from the increased use of energy-efficient end-use technologies and low-energy housing.*
- *Providing better services with less consumption of energy and resources is in harmony with ensuring well-being for all. Demand potential differs from region to region, and some regions need additional energy, capacity and resources for well-being and combating malnutrition.*

- *People with a high standard of living contribute disproportionately to rising emissions and have a high potential to reduce emissions while maintaining reasonable standards of living and well-being. Addressing inequality and many forms of consumption behavior supports efforts to mitigate climate change.*
- *Achieving net zero CO2/GHG emissions at the global/country level involves using carbon dioxide removal (CDR) to offset hard-to-remove residual emissions (e.g. emissions from aviation, agriculture, industrial processes industrial). CDR implementation faces constraints related to feasibility and sustainability, especially at large scale. Currently, afforestation, reforestation, improved forest management, agroforestry and soil carbon conservation are the only widely used CDR methods. Afforestation and reforestation, biomass production for bioenergy with capture and storage (BECCS) and biochar can compete for land, water and other resources, with possible negative outcomes for ecosystem health, biodiversity, livelihoods and food security. CO2 removal and storage through vegetation and soil management can be reversed by human or natural disturbances; it is also vulnerable to the effects of climate change. There are concerns that the prospect of a large-scale CDR could obstruct emissions reduction efforts in the short term, fail to deliver the intended benefit of removing CO2 from the atmosphere sustainably, and have negative side effects.*

We ask ourselves what conditions are required to have the emission reductions mentioned as necessary to be achieved.

- Changing development methods in the direction of sustainability requires transformational changes that disrupt existing development trends. Climate change is the result of decades of unsustainable production and consumption patterns, as well as governance arrangements and political-economic institutions that maintain resource-intensive development models. Changes to these development paths would include technological, systemic and socio-behavioral changes.

- The need for integrated policies, economy-wide approaches and enabling conditions in governance, politics, finance, institutions, innovation, behavior and lifestyle

- Annual investment flows in solutions will need to multiply to achieve the emissions reductions required by 2030.

Current mitigation financial flows (public, private, national/international) are 3-6 times lower than average levels required by 2030 in scenarios limiting warming to 2°C or 1.5°C. Investment differences are largest for the Agriculture, Forestry and Other Land Use (AFOLU) sector in relative terms and for developing countries. When investment needs for, for example, adaptation, loss and damage reduction, general infrastructure and climate-adapted social protection are taken into account, the funding gaps and challenges for developing countries become even greater compared to those for developed countries.

- Implementation of the right incentives.

If investment in coal and other infrastructure using fossil fuels continues, energy systems will be constrained by higher emissions. Also, in terms of urban infrastructure, the construction of new infrastructure and the upgrading of existing ones may result in significant committed emissions by 2030.

- There is enough capital and liquidity worldwide to bridge investment gaps, but barriers, both inside and outside the financial sector, as well as macroeconomic constraints facing developing regions, should be overcome. Obstacles to the use of trade finance include inadequate assessment of climate risks, a mismatch between capital and investment needs, national bias considerations, differences in risk perception, country debt levels, economic vulnerability and limited institutional capacities. Despite growing investor concern and numerous initiatives by regulators and financial institutions to assess and address climate-related financial risks, there is little evidence that this concern has had a direct impact on emissions reductions. Financial institutions and markets continue to largely underestimate the risks, which limits the reallocation of capital needed for the transition to a low-carbon economy.

- Political intervention and leadership capacity remain essential to address uncertainty, which is a fundamental barrier to redirecting financial flows. Existing policy imbalances, including fossil fuel subsidies, undermine the credibility of public commitments and limit the actions of the financial sector. Sending clear signals from governments and the international community, including stronger alignment of public sector finance and policies and higher levels of public sector climate finance, would reduce uncertainty and transition risks for the private sector.
- Eliminating fossil fuel subsidies could reduce emissions by up to 10% by 2030, while improving public revenues and macroeconomic performance, supporting low-income groups and achieving other environmental and sustainable development benefits. A gradual reorientation of existing subsidies to agriculture and forestry would also go a long way towards mitigating the effects.
- Justice and equity are important considerations for effective climate policy and ensuring national and international support for deep decarbonisation, given differences in GHG emissions contributions, vulnerability and impact, as well as capacities in within and between nations.
- Accelerated international financial cooperation is a key enabler for fair and low-carbon transitions and can address fundamental inequalities in access to finance and costs and vulnerability to the effects of climate change. Options include: climate legislation enabling mitigation by providing direction for action, setting targets, mainstreaming mitigation into sectoral policies, increasing regulatory certainty, creating statutory agencies, creating fulcrums for social mobilization and attracting international funds. Both market-based and regulatory policies have distinct but complementary roles.
- Changes in the path of development result, both from sustained political interventions, and from bottom-up changes in public opinion. The collective action of individuals within social movements or lifestyle changes is the basis of system change.
- The number of climate-related disputes is increasing and may affect the outcomes and objectives of climate governance. Since 2015, at least 37 systemic proceedings have been initiated against states challenging a state's global effort to mitigate or adapt to climate change. If successfully resolved, such procedures can lead to an increase in a country's overall ambition to combat climate change. Climate litigation has also challenged governments' permits for high-emissions projects, setting precedents in favor of climate action. Also, the number of climate-related litigation against the private sector and financial institutions is increasing.
- Effective climate governance is based on the involvement of civil society, political actors, local communities, young business people, the workforce and the media. The extent to which different actors are involved influences political support for climate change mitigation and ultimately policy outcomes.

All of the above are presented as solutions from which decision makers are expected to draw conclusions in order to take action.

Conclusions

We faced a common challenge that demonstrated the need to build a competitive, low-carbon and climate-resilient economy. Global challenges require common viable solutions, more than ever.

The goal of reaching zero global carbon emissions by at least halving them by 2030, while also reducing other emissions, represents the minimum milestones for action. States with greater capacity and responsibility must lead by example and support other states in this endeavour.

Governments need to align their targets to 1.5°C, but under current policies we are still heading for a future with a 3°C rise, and finance continues to go towards exacerbating existing problems. No new investments in fossil fuels should be made, and existing fossil fuel-based

power plants should stop their activity as soon as possible. Governments still plan to produce more than twice the amount of fossil fuels in 2030 than would be compatible with limiting warming to 1.5°C. This demonstrates the urgency of aligning 2030 targets, policies, investment plans and financial flows to 1.5°C.
Removing carbon dioxide does not provide a sufficient solution. It is crucial to protect and strengthen the capacity of our forests and soils to sequester more carbon. But given the many uncertainties, barriers and risks, it is not possible to rely on large-scale carbon removal. Our highest priority must be to stop new emissions from entering the atmosphere, rather than relying on a theoretical future effort to eliminate emissions on a large scale.
In order to aim to limit the increase in the global average temperature to 1.5°C, the reorientation of investments will be essential to avoid the deadlock in the field of carbon dioxide emissions. Actions to simulate the ecological attitude - greenwashing, with commitments on "net zero emissions", based on unsustainable offsets, only accentuate the current situation.
We must honor our obligations jointly. Governments of developed countries must meet their climate finance commitments, ensure technology transfer, take the initiative to close the adaptation gap, and truly address loss and damage.

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FACTORS DRIVING ALBANIAN STUDENTS STUDY ABROAD

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Sindi TACE[48]

Abstract:

Student migration is a rising phenomenon in Albania in last decades with researchers calling it a "brain drain" of the population. The present study examines the possible driving factors behind the migration of the young generation with the purpose of deepening their academic formation. Exploratory factor analysis has been implemented to data gathered through a survey distributed to students belong to middle-high social strata who are currently studying abroad. Study findings define three main factors of students` brain drain grouped as socio-economic, educational and carrier ones.

Keywords: *Student migration, driving factors, social and economic influences, carrier opportunities, Albania*

JEL classification: *F22, H75, I25*

Introduction

The past couple of years has witnessed a noticeable growth of the number of Albanian prospective student make educational selection based on study abroad opportunities. Studying abroad before 1990 in Albania was considered a privilege given by government to only particular individuals with high profiles in society. Today, studying abroad is a personal choice and less hard to be achieved. Globalization and international environment being welcoming to new well-educated and talented migrators, has intensified the youth migration phenomenon. Public and private universities all over the world has opened their doors for Albanian students giving them the opportunity to develop their academic carries further.

This trend of student's migration is present in all divisions of Albanian society, from elites to the one less fortune and is not receiving attention by the right instances. Despite the opportunities offered by public universities located in all major cities of Albania such as Tirana, Durres, Shkodra, Elbasan, Vlora and Gjirokastra) and the wide range of private universities and franchised academic institutions mainly located in the capital, Tirana, Albania still has one the highest numbers of "distributing" students outside its borders (Gëdeshi & King, 2020).

Over 10 agencies, who offer study-abroad consulting are currently operating in Albania, and new ones launch every year. This growing number of new agencies can only mean a rising number of demands of the students who want to continue their studies outside Albanian boarders.

The issue with the rising number of future professionals choosing a foreign country to invest their talents, is the gap that Albanian market will soon undergo, regarding both: qualified new

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individuals and workplaces or positions. The shift of young individuals outside the boarders, for a country means a weakened development, considering that the average age per capital will eventually grow. Additionally, these numbers are a direct strike to the quality of education system in Albania.

This study aims to explore the factors that drive Albanian student to choose public/private universities abroad in countries such as Germany, UK, or USA, rather than choosing home country universities. The reasons may vary from educational, social to economical. Furthermore, the topic of students who shift to universities abroad rather than staying in their home country is not isolated, yet in Albania there is a gap in literature regarding research on this issue. Previous studies rely on the migration of labor mainly, without focusing on the rising issue of the youth migration of the country.

Study Background

Student migration implies a long stay perhaps permanent stay of student in their host country using their education as a pathway toward integration into a new society. Unlike refugees, labor migrants and illegal migrants, students are seen as welcomed migrants who migrate for enriching their own intellectual capital. Knowledge is perceived as critical in terms of economic growth as well as the social integration (King & Raghuram, 2013; Kruja, 2013; Raghuram, 2013), hence in the end of their education, they either move back to their country or stay and contribute in high-skilled labor market in the host country (Gëdeshi & King, 2020).

Globalization has played a significant role in internationalization of higher education, and which has become market driven activity (Hysa & Kruja, 2020). This rapid growth is affecting more and more students to seek higher education outside their countries and even consider or aim to establish their further future there permanently (Gribble, 2008).

Moreover, Gouda et al (2017, p. 25), in their study on exploring the push and stay factors of Iris medical students' migration, recognized as pushing factors the "negative perception regarding career opportunities, working conditions and lifestyle, while family was the only identified strong stay factor". Qualitative analysis of free text responses revealed themes that included training, career, personal and financial factors.

Nevertheless, Baláž et al. (2018), study results show connectivity factors (language, nearness, trade, knowledge) as crucial in students migration decision, meanwhile the traditional factors such as higher opportunities for income, employment or education quality showed to be less significant.

Furthermore, Mihi-Ramirez & Kumpikaite (2014) in their study found internationalization as a predictable and aim of most of students meanwhile their main motivations are economic ones. However, there are other specific factors impacting student migration determination which are dependent on the country under analysis (Mihi-Ramirez & Kumpikaite, 2014).

Based on the study of King (2005) for Southern Europe and Balkans migration, Albania is considerate as an ideal laboratory for the study of student migration as a country with a very high tendency regarding this trend. Every year in Albania is seen a rising trend of young generation aiming to study abroad rather than there, trend affecting all society classes from the elites who can afford a good living in the country to those with much less incomes (Kruja

& Kadiasi, 2020). Experts highlight the fact that this phenomenon, which is taking a concerning point, and are naming it “brain drain” (Kruja & Berisha, 2021), as the main factor is determined the quality of education in Albania and the lack of employment options (Picari, 2019; Kruja & Kalluci, 2021).

The Albanian migration is categorized as students, family members of emigrant, economic emigrants, asylum-seekers, and unaccompanied minors. Based on a report published by Ministry of Internal Affairs in 2017 for Migration of population in Albania, the students are ranked third out five main categories of migration in Albania as shown in the figure below.

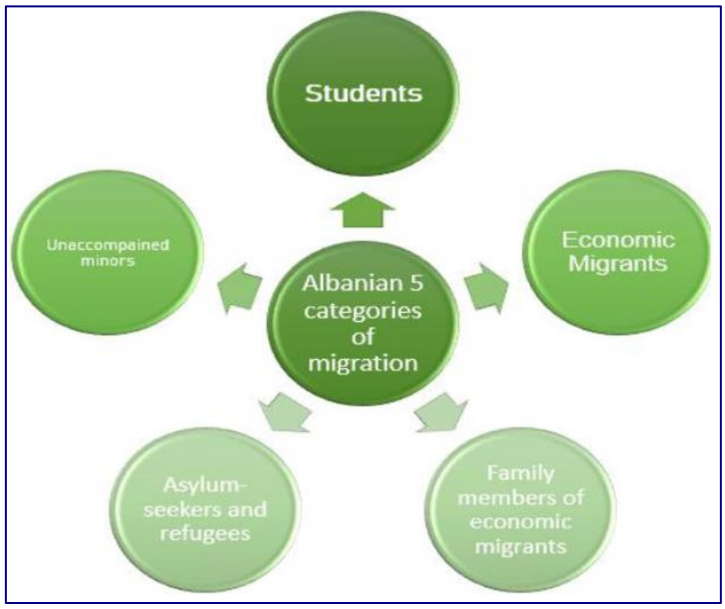

Figure 1: Albanian 5 categories of migration
Source: Ministry of Internal Affairs (2017)

After three decades, the migration issue in Albania is still rising strong but the profile of this phenomenon has changed (Kruja, 2020). Back in the 1990s the poverty was the main driving force of individuals that chose to migrate from Albania; nowadays the migration is displayed more amongst the youth and highly educated sections of the population (King, 2008).

This trend of moving has affected even experienced individuals who see a second university as an opportunity to stay in the country they study. The opinions on this issue stand between two parties; government officials that see this phenomenon as a good indicator of country development and integration in other cultures mainly European, while social experts judge it as the leaving of future minds and energies of a developing country.

Protagonists of the academic society in Albania are underlining that the phenomenon of students choosing to study abroad, is taking on disturbing proportions, categorizing it as brain drain. The researchers see this increasing trend because of the diminishing quality of higher education in Albania and the limitation of job position structures in labor market. While critics judge this trend as an outpouring of youth energy and knowledge, the government welcome the effort of students for better qualifications.

Education in Albania is seen as the first step toward a bright future and is guaranteed by the Constitution. In the recent academic year 2020-2021, a decrease in the numbers of students registering in Albanian universities has been noticed (table 1) resulting in 12.5% less students registered compared to 2016-2017 (INSTAT, 2020).

Table 1: Number of students registered for university

Academic Level	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021
Under/post Graduate students	141.410	131.833	139.043	130.264	123.797

Source: INSTAT, 2020

Albania is facing both, the growing trend of young people who aim to be educated abroad and the increasing number of those who, after being educated in Albanian academic institutions, seek a specialization or job in Europe or Overseas. Critics say that in the long run the pillar of society and the economy will be missing from the country and that this leak will sooner or later have its consequences on Albanian further development (Picari, 2019). An important indicator in education it is the number of students per 1000 inhabitants. These reports show numbers declining (figure 2) because of several reasons, and their decision to study abroad is the main one.

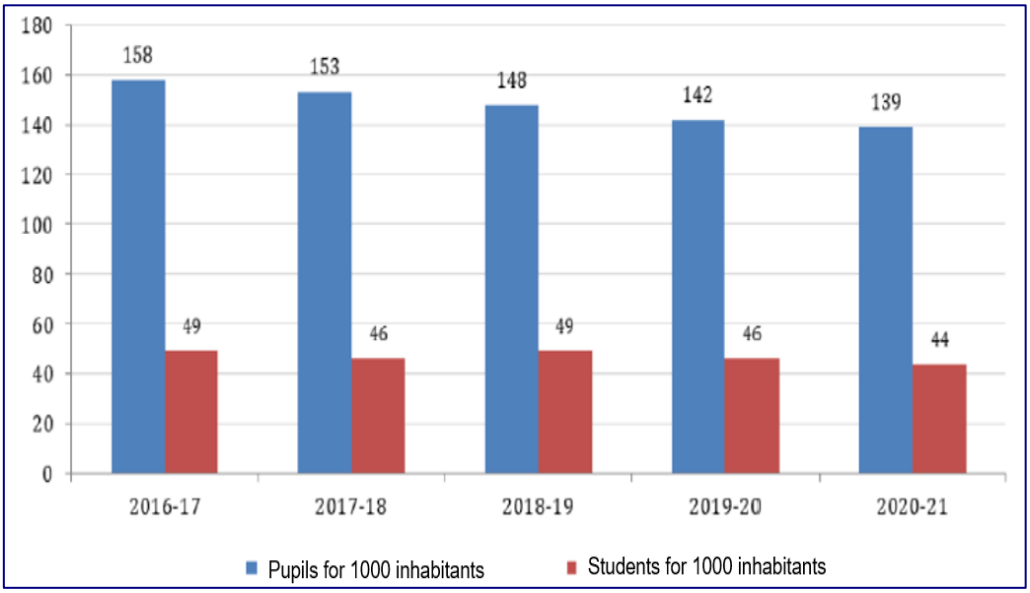

Figure 2: Number of pupils and students for 1000 inhabitants
Source: Ministry of Internal Affairs (2017)

The desire to study abroad commonly appears in the freshman years and is a perception and reflection of young people on the conditions of education and their perspective in Albania. Seeing that the universities in Albania do not meet a lot of requirements, students start their applications to continue the rest of their education abroad. In other cases, this desire is driven by educated parents who aim for the good education of their children and often see their perspective abroad. Several authors have also argued that investing in their children's education abroad is a confirmation of the parent's social status as well to enhance their family intellectual background (Waters, 2006).

A lot of young people who aim to study abroad have parental incentives. The research conducted by Gëdeshi and King (2020), shows that almost 2/3 of the parents who want to take their children to study abroad are professionals (doctors, engineers, lawyers, etc.), government officials, businessmen, managers, directors, or business partners. This confirms that in the decision of students to apply abroad for their studies, is driven by the perception of their parents that the quality of life abroad is better than in Albania. The parents desire to send their kids abroad is supported even by political factors such as instability in Albanian case. In the 90s the political stability was at its lowest, now even if it is presented in better levels of measurements, the influence it has in the decision of students to study abroad is still recognizable. For instance, the political stability index varies from -2.5 which is the lowest to 2.5 the strongest. Albania's minimum point were reached in 1998 with -0.54 and the maximum in 2014 with 0.49 points (The Global Economy.com, 2020).

Methodology

To discover the factors that push Albanian students to leave the country during their academic years, a quantitative research design is followed. The approach toward this study and its purpose are mainly exploratory so the tendency of the students to move abroad is under study with the intention to distinguish the educational, economic, and social factors driving it. Under this purpose, this study researches and reveals the main features from these fields that has the most impact on students' decision. The survey is designed to test the items in each factor, allowing for a reflection of what is truly influencing the migration of the student toward foreign countries with the purpose of staying there. Participants were asked to rate:

(1) the educational factors according to their influence on decision to study abroad

(2) social factors according to their influence on decision to study abroad

(3) economic factors according to their impact on decision to study abroad

Used study survey items and respective statements are given in table 2 below.

Table 2.

Study Survey Items

Items	Statements
Education	The low quality of teaching methods of the university in Albania
	The old modules applied by the majority of universities operating in Albania
	The lack of campus facilities such as laboratories and updated technologies
	The absence of some specific degree in the field you require
	The unviability of internship/ work placement in demotivating
Social	The host country offers better life quality and safer compared to Albania
	Education abroad is a confirmation of my social status
	The student life in Albania is less active than abroad and it does not offer a full experience such as student clubs, sport teams or hubs, etc.
	There is a perception that international education is better than in Albania
	Albania doesn't offer a cultural diversity and narrow mentality

Economic	Job opportunities are limited
	Salaries are not satisfying compared to a particular middle to high range living standard
	Carrier growth often requires connections than given on merit basis
	Investing in education abroad seems as more valuable option rather investing in education Albania
	Albania lacks a political stability

The sampling technique utilized on this study is Purposive Sampling, in which the group is decided based on the best knowledge and judgment of the researcher. The group is set to be the students studying abroad in academic programs not language short courses due to their lack of language ability to understand the survey.

The students' names and personal details will not be reveled due to privacy restricts required by them or their families in cases where the student is underage. In total, 100 students participated and were surveyed through an online questionnaire formed on Google Forms. The survey collects data from the respondents through a structured questionnaire, which is composed of 22 closed-ended questions.

The intention of these questions is to collect quantitative information through a two-section survey. The first section collects demographic information to better understand the characteristics of the students being surveyed. This section of questions is linked to multiple choice answers. The questions consist of gender, age, the education level, and field. Also, a question regarding the tuition fee is asked to understand the amount of money is being invested outside Albania for education. The second section is formulated with scaled questions formed based on a 5-Point Likert Scale with answers vary from strongly disagree to strongly agree. This survey was crucial for the research, collecting data from the student who are currently studying abroad since 2020 and belong to families with a fair well-being. The questionnaire was distributed through e-mails to 100 students and was completed within 5 days. In total there were 22 questions created in Google Forms, designed to be accurate, understandable, and easy to be filled within 3-4 minutes.

Factor analysis is statistical technique used for identification of moderately small number of factors, which represent the relationship between interrelated variables. Decreasing the number of variables and detecting the structure in the relationships between variables, are the two primary applications of factor analysis (Child, 1990).

Study Results

Sample Characteristics

The questionnaire was fulfilled by 100 students in Google Form provided from the database of "StudyCare" agency in Albania. The findings of the survey are revealed for each demographic characteristic of the students in terms of gender, age, program following, country of their

studies, field of studies and program's tuition fee, descriptive statistics are given for motivation factor and students migration and a final question regarding their future plans.

The majority of the students were female, accounting for 59% of the respondents while 41% were male. Most of them belonged to the age group 19-22 taking over 47% of the population questioned. Second group occupying 33% in aged between 23-28. The minority, 20% belongs to age between 15-18. 42 % of the population are currently following bachelor, 34% are in their pre/master studies, meanwhile the other percentages were divided among college and foundation/A levels, 10% and 14 % respectively. 40% are studying in United Kingdom, following 21% in United States of America and the rest are focused on Europe.

34% of the respondents are focused on studying Business/Finance, however the second most preferred degree is Law with 17% and third Engineering with 15%. Social sciences, health sciences, and arts are less preferred, respectively by 13% 12% and 9% of students.

The costs spend by Albanian parents in foreign education though tuition fees of their children is mostly (57%) more than 15.001 EUR per year. 38% spend between 10.001-15.000 EUR and only 5% spend less than 10.000 EUR.

Factors that Drive Albanian Students Study Abroad

Kaiser-Meyer-Olkin (KMO), Bartlett's Test of Sphericity, and Measures of Sampling Adequacy (MSA) tests were conducted to know if we can proceed with the factor analysis. Kaiser-Meyer-Olkin (KMO) measure was tested to verify the sampling suitability for the factor analysis, so to understand if the gathered data are sufficient for factor analysis. KMO results was 0.871, higher than 0.5 the minimum acceptable value, so the factorial analysis will provide distinct and reliable factors. The Bartlett's Test of Sphericity compares the strength of the relations of the items in the study. The result must be less than 0.05. Based on the results of the test, it is less than 0.05 which means that the items provide the standard to proceed with Factor Analysis. Eventually, the Barlett Test of Sphericity resulted significant as well. Measures of Sampling Adequacy (MSA) resulted impropriate (lower than 0.5) for three items which were excluded from the analysis.

Cronbach's Alpha analysis for social factor influence over student's decision to study abroad, is resulting .27, approximately .23 below 0.5 of the limits which makes valid a factor. This mean that the influence of this factors is only 23% and it is not considered crucial nor has a strong impact on driving student to leave Albania to study abroad. The item with the lowest mean and less selected by the students is Cultural diversity and Social Status.

FACTOR 1: Education

The Cronbach's Alpha analysis result of the statements used to measure education factor (table 3) is above 0.5, meaning Education factor is valued as acceptable and it has an impact on student's decision to study abroad. The items with the highest mean are estimated Low Teaching Quality and Old Modules.

Table 3: Reliability Statistics for Education Factor

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.680	.748	5

Item Statistics

	Mean	Std. Deviation	N
Low Teaching Quality	4.48490000000000	.783203077500377	100
Old Modules	4.47480000000000	.769933068060418	100
Lack of Campus Facilities	4.343434343434343	.818493518379107	100
Absence of Specific Degrees	3.08070000000000	1.2117007456338 79	100
Unviability of Internship/Work placement	4.23230000000000	.850766564619664	100

FACTOR 2: Social

Cronbach's Alpha for social factor influence over student's decision to study abroad (table 4) is .27, below 0.5 the limit which makes valid a factor.

This means that the influence of this factor is only 23% and it is not considered crucial nor has a strong impact on driving student to leave Albania to study abroad.

The items with the lowest mean and less selected by the students are Cultural diversity and Social Status. These two items are removed, and Cronbach's Alpha value has increased to 0.783 (table 5), so at this stage the remaining three item are a relevant measurement of the factor Social.

Table 4: Reliability Statistics for Social Factor

Reliability Statistics

Cronbach's Alpha	N of Items
.271	5

Item Statistics

	Mean	Std. Deviation	N
Better Life quality	4.5100	.80616	101
Social Status	3.5700	1.15978	101
More attractive Student Life	4.3600	.81878	101
Better education	4.5500	.72629	101
Cultural Diversity	3.3500	1.22780	101

Table 5: Reliability Statistics for Social Factor after Deleting Items

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.783	.786	3

Item Statistics

	Mean	Std. Deviation	N
Better Life quality	4.5100	.80616	100
More attractive Student Life	4.3600	.81878	100
Better education	4.5500	.72629	100

FACTOR 3: Economy

The third factor analysis is regarding the Economy factor. Measurement of Cronbach's Alpha shows a 77% reliability of this factor toward the trend under study.

Table 6: Reliability Statistics for Economy Factor

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.777	.800	5

Item Statistics

	Mean	Std. Deviation	N
Job opportunities	4.4800	.67390	100
Salary satisfaction	4.4500	.70173	100
Carrier growth	3.9000	.90453	100
Higher Value	4.4900	.78490	100
Political stability	4.0900	1.10184	100

Exploratory Factor Analysis

As mentioned above, KMO results was 0.871, higher than 0.5 the minimum acceptable value. Moreover, Communalities show the proportion of each variable's variance that can be explained by the factors. Variables with high values are well represented in the common factor space, while variables with low values are not well represented. From the measurements, the item of "Political Stability" results with value below 0.5, meaning that it is an item not reliable.

A second factor analysis is conduct after removing the third item "Political Stability" detected as not adequate with the study and with no valuable weight on students' decision to study abroad. The influences of the items left are considered distinct and reliable. As a result of exploratory factor analysis, by using the Principal Component Analysis, there were extracted

3 factors, which explained 70% of the variance in the affected student's decision as shown in the figure 3 below.

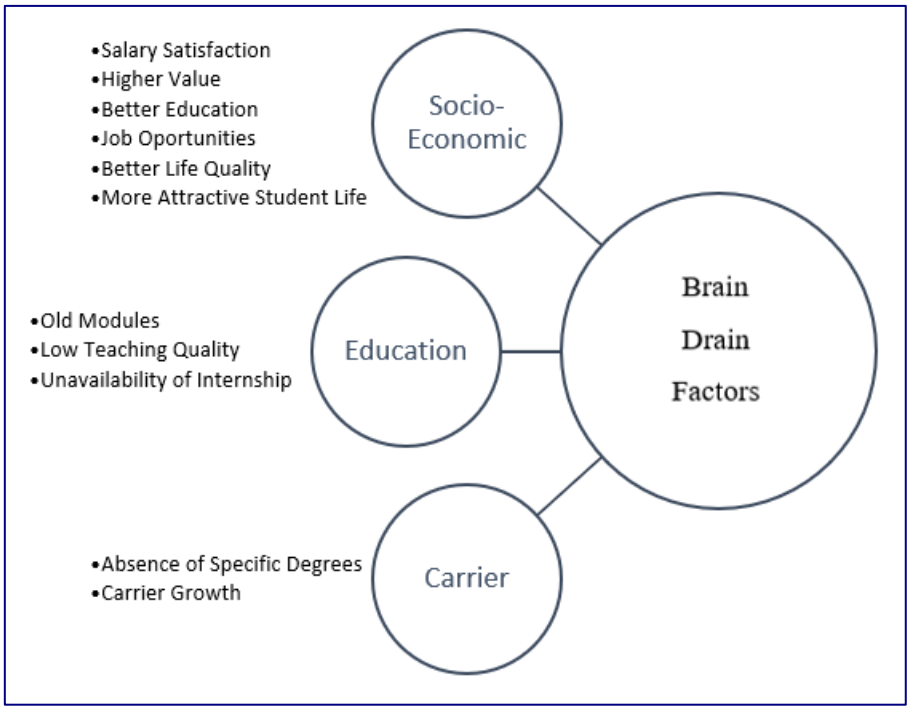

Figure 3: Brain Drain Factors

Discussion and Conclusions

Several educational-social-economic factors trigger the intention or plan of student to emigrate. The actual trend of most educated segment of Albanian society aim to migrate for education purposes and develop their future there are symptoms of weakened educational or economic structures of the Albania's political-social system.

The results of the surveys fulfilled by 100 students, showed a tendency of some items representing three factors taken under study. The scale used to measure their effect was Likert ranged up to 5. The items with the highest impact on student's decision are respectively, the low quality of teaching and the unsatisfied salaries offered in Albania.

By the measurements taken through the factor analysis (conducted by SPSS), it is noticed that the factor with the highest impact is the economical factor while the social factor does not play a significant role in the student's decision to study abroad.

Two out of three factors stood out as the most influencing, the education and economy. Based on previous studies mentioned in study background, the more developed the country the less is suffers from brain drain phenomenon.

Students migrating from Albania leave the country in a cycle status, students leaving because of the lack of better education, life and work condition, and the country lacking the high skilled new individuals which eventually keeps it in one place. From the two factors mentioned above, the one that can be improved faster in a near future is a formation of education system like more training toward the academic staff for refining the quality of teaching methods,

implementation of updated modules and practices in several degrees such as Business/Finance or Law which from the survey were noticed as the most preferred by the students.

The international student migration is widely spreading in a lot of countries and is being treated as normal tendency by some of them due to contemporary globalized society. The real issue with Albanian case of migration is that students' going out is not balanced compared with students coming back in, representing a loss of developing human capital.

As part of the finding, the lack of internships and limited job opportunities belonged to one of the items with the higher mean score. As a percentage part of Albanian's GDP, what is spend on education needs to be risen to EU levels at least. New and innovative investments are needed in university education and not only. The scientist research area needs further attention as well, increasing the profile of Albanian students

The identification of the factors that drive Albanian students' migrations are beneficial to government educational instances such as The Ministry of Education and Universities Administrations and admissions, and authors behind curriculums behind each degree. This study was focused on the youth part of the population, the new brain, skills, and energy of a country, so the trend of student migration is a disturbing matter that needs attention from the right educational instances. The results showed a perception that the quality of education here is not good enough to invest money in the country, so students are choosing universities abroad not only for their education but also for their future carrier development.

The main limitation of this study stands in terms of the sample size of the participants, students to be more specifically. The students chosen for the survey belong to the latest intake, which may have been unknowingly affected even by pandemic situation.

Further studies from relevant authority structures are necessary with a different approach more extended in time horizon as well a wider range of students is suggested to be taken under study. This approach of studying the phenomenon in long term and larger group, helps in better understanding the tendency of student's migration and if other factors of influence surface. As well open questions would provide a deeper perspective of the phenomenon and reasons driving it.

Firstly, actual measures may be taken to improve the quality of education in Albania to make it a more welcoming environment for motivated students, create and implement strategies to increase the employment and internship opportunities for newly graduated students. A solider alliance is needed between higher education providers and Albanian government for further development and improvements.

Based on the most preferred fields chosen by students in the survey, resulted to be Business/Finance and Law, two degrees that are available in Albania too, yet the students chose to study them abroad. Further studies from higher education providers and curriculum creators are needed, to inspect the modules and programs currently being applied by universities offering these degrees to see where students are facing difficulties or are not satisfying.

On a wider perspective, the main recommendations are addressed to government. The phenomenon of student's migration must be a "wake up call". The young generation is shifting their energies outside Albania. Government should assist in expanding the employment

structures and creating adequate working environment for all professions. Eventually, a better health and education system, as well better social protection structures will enrich social and cultural life making it preferable from the students.

Lastly, the migration of Albanian students is more concentrated in several countries such as UK, USA or within Europe Italy or Germany, compared to others. This is a chance for the Albanian embassies or consulates in these countries to strengthen their communication. By locating Albanian students in their host countries, the state can keep them updated with economic developments or job vacancies in public administration or any academic scientific institutions.

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CHOOSING AND JUSTIFYING A PUBLIC PROJECT

Adrian Eugen DINU[49]

Abstract:

This material aims to bring to the fore, through an empirical approach, corroborating the literature with the authors' view, the main features of project management – initiation phase of a investment's public projects, on the one hand, but also the directions of use of this information both against the background of conditions for improving the choice and justification. This study combines significant elements of economic epistemiology, such as: project management, problem analysis, problems tree, comparative study, in order to growing the sensitivity of feasibility and durability of public investments

Key words: *project management, choice, justify, public investment*

JEL Code: H400

Introduction

The first challenges facing a program manager are deciding on and justifying the work to be done and obtaining management approval or "buy-in" for the project. Determining what is to be done can be a major challenge in itself and is a critical first step for a project manager or researcher to consider.

Within Public Administration Sector, and in the scientific and engineering community in general, there is an overabundance of interesting and challenging ideas and projects to pursue. In fact, there are generally more interesting research and technical topics and challenges than there are resources available to pursue them. Clearly, some process or method is necessary to decide on what is to be done and how to select and prioritize projects across diverse technologies.

Many possible ideas for projects stem from needs and requirements that are unmet in industry and society, in areas such as health, defense, manufacturing, transportation, communications, and information technology.

Still, other ideas stem from the pursuit of science and technology as the search for new knowledge and understanding continues. From this broad landscape of possible ideas and areas to pursue, a project manager or researcher must carefully decide which are the most important or urgent areas, and then provide the necessary rationale and justification for proposed work.[1]

Literature Review

In the specialized literature at national level there are a series of steps taken by Romanian specialists related to defining the project concept, of which I will present only the opinion of Constantin Opran according to which the project is "a non-repetitive

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process that achieves a new, well-defined within a specialized organization. The project is characterized as a unique, specific action, composed of a logical sequence of coordinated and controlled component activities, with innovative character of different nature, carried out in a methodically and progressively organized manner, with time, resource and cost constraints, intended successful achievement of new complex results, necessary to meet clearly defined objectives ". [2] (Opran et al., 2002)

Project cycle management

Project cycle management addresses these issues by trying to ensure that projects and programs are in line with and contribute to achieving these overarching objectives of EU external cooperation policy.

After 1993, the use of PCM - Project Cycle Management has expanded from the traditional project approach to sectoral programs, for which the principles and methodology of the PCM are applicable.

In PCM terminology, the use of these standardized concepts, tools and documents throughout the (life cycle) of a project is called an "integrated approach". The effectiveness of the PCM depends to a large extent on the quality of the information available (especially from beneficiaries and target groups) and on the correct use of concepts, techniques and tools together to achieve a common general objective, usually relevant at sector level, the country. or even internationally.

In some contexts, the concept of program is understood as an institutional framework that allows the implementation of several projects to fulfill a global goal or mission.

It is obvious that the purpose and impact of a program are more comprehensive than in the case of individual projects [3].

Project initiation phase

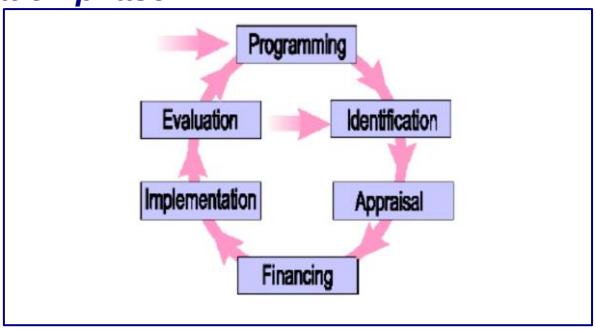


Fig no.1 Project Cycle Management Source: PM Illustrated

From the cycle of the project process phases, the preparatory stage contains only the programming, identification and evaluation to approval of the project concept

1) Programming

In the programming phase, the principles and steps to be followed for cooperation between the European Union (EU) and the beneficiary country are established in close consultation with the Government Plan

Careful analysis of the problems and opportunities that exist at national level, priorities at national and European Union level, current and future actions of the financier and resources available at local level form the key elements on the basis of which decisions are taken to focus European Union interventions on a particular topic. or a sector of activity. The main programs and projects are also outlined in this phase.

The main document that is elaborated in this first phase is a national, county or local strategy or another document supporting the national strategy

2) Identification

In this phase, specific ideas regarding programs and projects within the framework established by the national strategy documents are identified and reviewed, the problems, needs and interests of possible stakeholders are analyzed

To help, sectoral, thematic or pre-feasibility studies are undertaken. Based on these studies and analyzes, decisions will be made on the options to be considered in the future in order to finalize a project proposal.

3) Appraisal

During this phase, the project idea is materialized in the project proposal. Also, during this phase, an ex-ante evaluation is made. The key aspects of the project are analyzed in detail.

Key elements of quality are taken into account, and the main stakeholders are directly involved in the project development and analysis process.

Also in this phase, the logical framework matrix of the project is elaborated, including the strategic elements of the project: objectives, activities, results, indicators, risks and hypotheses, together with the graphical planning tools for implementing the activities, resource charts.

These are used to assess the key elements that help predict the impact of the project: relevance, feasibility and sustainability.

The result is a decision on whether or not to submit a funding proposal.

Choosing Criteria

As defined above, it can be concluded that in order to streamline the management of projects and programs, all aspects, principles and conditions regarding the process of their development and implementation must be taken into account.

The most important **principles of choice**:

• Systematic compliance with major EU priorities and policies, as well as those of beneficiary countries and other donors;
• Design and implementation of projects based on clear and realistic objectives;
• Relevance, feasibility and sustainability of projects;
• Ongoing consultation, stakeholder involvement throughout the project;
• Using the Logical Framework Approach for designing, managing and monitoring project evaluation;
• Establishing some key quality factors for starting the project.

The **conditions** refer to:

1. Clear and realistic objectives for projects or programs:
• Clear distinction between objectives and the means to achieve them;
• Clear and realistic definition of the Purpose of the Project, which must always involve lasting benefits for the target group (s) and final beneficiaries;
• Assumptions and preconditions: major external factors of the project that could significantly influence its success.

2. "**Quality Factors"** which reinforce the long-term benefits of the project and ensure the sustainability of the project and its positive impact:
 Participation and involvement of beneficiaries in the elaboration and development of the project;

 Ensuring political support from local and central authorities for a stable and rational policy framework assumed by the beneficiary, in particular for sectoral and regional policies;
 Adapting the project strategy to the socio-cultural aspects specific to the target area;
 Systematic application of principles and practices that ensure equal opportunities for women and men;
 Choosing the most suitable technologies;
 The management capacity of public or private institutions that implement projects and programs;
 The economic and financial viability of the projects or programs and the sustainability of the benefits generated by them;
 Integration of environmental protection aspects;

3. Consistency with and contribution to the "comprehensive achievement of EU objectives" through projects and programs.

First, Project Cycle Management is closely linked to the broader framework for external cooperation promoted at EU level, in which poverty reduction is the central goal. From this perspective, the strategic areas arising from the Maastricht Treaty are the following:

• Sustainable development, in particular by promoting the equitable development of investment and employment policies, social and human development and environmental protection;
• Integration into the world economy, by supporting regional cooperation and integration;
• Fight against poverty;
• Democracy, human rights, the rule of law, peacekeeping and conflict prevention.

Methodology Research

Research methodology in choosing and justifying a public project involves a questionnaire addressed to the relevant public authorities that manage public investment projects. The process for justifying and selecting projects typically involves satisfactorily answering and evaluating the following kinds of questions:[4].

- What are the problems or issues?
- What parts of a problem should be investigated?
- Why is the selected work needed or important?
- Who will benefit from the results and how?
- What will be the significance or impact of this work? Scientific? Economic? Societal?
- How will this work be done?
- What are proposed solutions or technical approaches?
- What are the risks and unknowns?
- What risk-mitigation strategies or steps are needed?
- What is the likelihood of success? Of failure?
- What are the resources (time, people, money, and so on) needed to accomplish this work?
- Will sufficient resources be available for this work when needed?
- Who should do the work? What are their roles and responsibilities?
- Am I qualified to conduct1lead this work?

- Is my organization qualified and able to perform this work?
- Should UAT/AP conduct this work, and can UAT/AP make a difference?
- Who else is doing similar work? Can this be leveraged?
- Are other qualified people and1or organizations needed, and what are their roles and responsibilities?
- How will results be delivered and accepted?

Results

As a first result of the research is the **analysis** of the identified problems which are following those steps:

• Define the initial unwanted situation
• Identify and list potential / interconnected issues
• Choose a 'startup issue'
• Arrange issues hierarchically:

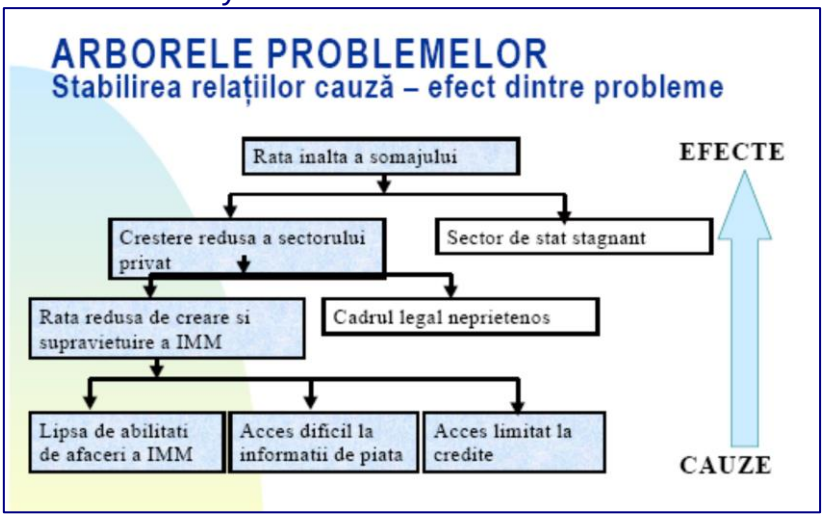

ARBORELE PROBLEMELOR
Stabilirea relațiilor cauză – efect dintre probleme
Rata inalta a somajului
EFECTE
Crestere redusa a sectorului privat
Sector de stat stagnant
Rata redusa de creare si supravietuire a IMM
Cadrul legal neprietenos
Lipsa de abilitati de afaceri a IMM
Acces dificil la informatii de piata
Acces limitat la credite
CAUZE

Fig.no2. The Problem Tree – (Romanian language)

Source: Opran C.

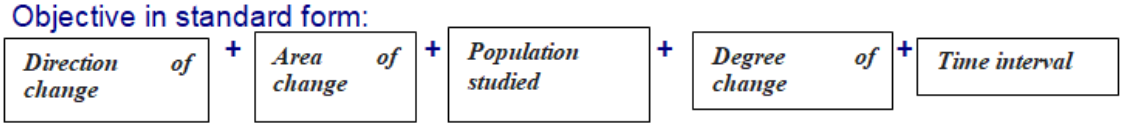
-If the problem analyzed is the CAUSE of the startup problem, it will be placed DOWN at the shaft construction
- If this is the EFFECT of the starting problem, it will be positioned level higher
- If there is no cause or effect, both problems, those analyzed and those proposed

Development of objectives

To set a goal, try to answer the following five questions:
 What are the key areas you want to change?
 Which segment of the population will be involved in the change?
 What is the direction of change (increase or improvement or decrease or decrease). who are you looking for
 What degree or proportion of change are you looking for?
 What is the deadline for achieving the degree of change?

Recommendations for outline an objective statement

The zone of change ⇨ what I want to change, to improve, to develop, to change, to improve
Population ⇨ who, what number or what percentage of …
The direction of change ⇨ what I want to do: change, improve, eliminate, and increase
Degree of change ⇨ to what extent, by how much
Time period ⇨ how long
Objective in standard form:



Basic elements in choosing the project structure

Recommendations for choosing the most impact project title

The title should describe the project well, give a correct image and help get maximum support for the project idea. A well-chosen title will help you capture attention and "ignite" your imagination. Remember: a common title suggests a common project. A long title suggests bureaucracy.

You may decide to have a main title and a subtitle that offers more explanations, but use "appropriate" subtitles. Both the title and the subtitle should attract different groups of readers with different professional levels and degrees of knowledge. good idea to discuss a series of possible project titles within your institution but also with people from outside.

Recommendations for choosing the location

- Defines the geographical or institutional location of the project. For most investment projects, the location of the project can be easily determined.

For example, bridges over the Danube or a modernized border crossing are targets with a clear geographical location.

- The location may be more difficult to establish for an institutional building project.

If, for example, laboratories are offered courses on new methods of sample processing, these courses may take place at their workplace or at a central laboratory in the country, or even elsewhere. In this case, the institutional location must be specified.

Recommendations for establish general objectives

General objectives are taken from the logical matrix of the project which is recommended to be elaborated before the standard summary sheet.

It is also recommended that the formulation of the objectives be accompanied by a performance indicator, which gives the image of the extent to which the objective is to be achieved.

Recommendations for establish the specific objectives

- Like the general development objective, the specific objectives are taken from the logical matrix of the project.
- As with long-term goals, try to quantify immediate goals through relevant indicators.

- From a methodological point of view, it would be incorrect to say that the aim of the project is to contribute to the elimination of illegal trade, or, more vaguely, to combat illegal trade.
- Contributing to or carrying out a battle are activities that may or may not lead to the achievement of goals. The difference between objectives and activities is important when it comes to measuring whether the project has really achieved what it set out to do.
- Try to be as concise as possible. Try to translate the long-term goal into one sentence and the immediate goals into no more than five sentences.

Recommendations for Project description

This subchapter should summarize the results of the problem analysis and should briefly and convincingly explain the rationale for the proposed project.

The minimum content of this subchapter must include:

• Explanations of the origin of the project and the reason why it is proposed
• The level of involvement of the partners
• Beneficiaries of the project

The description of your project should lead to a clear understanding of the intended use of the funds you intend to make. First of all, why the project is undertaken and what past and present links your project may have with projects of a similar nature. Next, you need to describe what you expect from the planned actions and what those actions will be.

The justification of the project will demonstrate the need and opportunity to implement the project, both for the territory and for specific target groups. In more detail, the justification for the project makes an empirical assessment of the current situation taking into account the available data - official statistics, surveys and any other information resources.

Project justification usually begins with an analysis of issues and needs:

- Description of the current situation in the field of interest in the selected region / country / area.

Once the problem is identified, the applicant will describe the target group affected by the current situation.

- The target group is different from the final beneficiaries of the project who will be selected from the widest range of target group / groups. The applicant will specify the reason for choosing the final beneficiaries of the project, as well as the level of involvement of the larger target groups (which in some cases include relevant stakeholders for the project) in the design and management of the project. The final beneficiaries will be quantified as much as possible.

The final beneficiaries will be classified into different categories: men / women, people from disadvantaged or vulnerable groups, ethnic minorities, rural population, people with disabilities, children outside the child protection system.

Conclusions

Answering these questions is a nontrivial effort that is essential to justifying a project and gaining management approval. It requires a project manager satisfactorily to answer important technical, management, and economic issues associated with a proposed project.

Even after a project is approved and work proceeds, many, if not most, of

these questions will need to be satisfactorily answered once again as problems and issues arise, to ensure that the project focus and effort are properly on target and that the work can still be justified.

Being able to answer these questions satisfactorily is an important part of being an effective and successful project manager in public administration.

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ASSESSMENT OF RESIDENTS TO TOURISM DEVELOPMENT AND THEIR ENVIRONMENTAL ATTITUDES

Parashqevi DRAÇI[50]

Gentiana KRAJA [51]

Abstract

One of the most fundamental issues of sustainable development is environmental protection. In this context, the knowledge of the community's views on the environment directly serves the sustainable development strategy of the region. The purpose of this study is to better understand this issue by investigating inhabitants' opinions on tourism development in the study area as well as their attitudes toward the environment and nature in general. The objectives of the study aim to test empirically:
1) how the inhabitants of Saranda and Ksamil assess the development of tourism in their area, and
2) the community's attitudes toward nature and the environment in general. The hypothesis of the study is defined: The environmental attitudes of residents in the study area tend not to be in harmony with nature. The findings of this study contribute to the evidence that the destruction of natural resources in this region is not a result of residents' negative attitudes about the environment and nature in general.

***Keywords**: sustainable development, environmental attitudes, community.*

JEL classification: A1, G1, O1.

Introduction

The economic and social opening of Albania after 1991, created new opportunities for the development of tourism in our country, especially in coastal areas, encouraging individual private investment, which structured tourism of small size and accompanied by fragmentation. extreme of the local tourist landscape. The district of Saranda, with the change of the system after 1990, faced potentially dramatic changes and many challenges. The area is highly dependent on traditional industries such as agriculture, tourism, and services. The environment of the area is widely known for the unique quality of the landscape. However, many of his special qualities are under threat. Changes in agricultural practice, which have been influenced by public policies, have resulted in land fragmentation and a lack of care for it. The tourism industry in Saranda has grown rapidly generating significant amounts of revenue. The development of tourism results in the expansion of the construction of hotels without criteria, without respecting the criteria for public areas and spaces and all this seems like a chaotic development. The growth of mass tourism has created positive impacts on the economy; however, it has also impacted the natural environment, which is mostly seen as a negative impact. In the natural aspect, the development of tourism has created pollution of the environment, and water, damage to the landscape, damage to the land, and damage to the ecosystems. As in other countries, these show that our natural resources are being destroyed by human use. The tourism industry, as one of the largest economic providers in the Saranda

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area, performs poorly compared to the extraordinary opportunities it has. The economic potential of outstanding landscape quality has not yet been realized to the proper extent. The district of Saranda is rich in the field of tourism with unique cultural and historical identities, as well as beautiful natural resources. The district of Saranda has an ancient culture and together with the unique natural aspects and stunning surroundings possesses great potential for the development of the tourism industry. The surroundings have cultural and natural components which can be developed as a quality attraction and generate investments, gain more income in the local community in addition to agriculture and handicraft production.

Description of the Problem

Why study residents' perceptions? Residents are part of the tourist activity and can contribute to the (un)success of the tourist experience lived in a destination. Residents' attitudes and behaviors towards visitors influence their decision to return (or not) to the destination. Residents are one of the tourism actors most affected, in their daily lives, by tourism development. To successfully develop a sustainable destination, it is necessary to involve the community in the planning, management, and monitoring of tourism activity.[52] Nowadays, it is important to clarify whether the residents in the study area have points of view that are in harmony with nature and if they consider that sustainable use of resources is advantageous in its development.

Sustainability principles refer to the environmental, economic, and socio-cultural aspects … and a suitable balance must be established between these three dimensions … Sustainable tourism development requires the informed participation of all relevant stakeholders, as well as strong political leadership to ensure wide participation and consensus building … … (UNWTO, n.d., para 7–8) The main tourism sustainability consensus culminates in the three-pillared concept of sustainability, renamed the natural, socio-cultural, and economic pillars (Ritchie & Crouch, 2000; Swarbrooke, 1999; UNWTO, 2004).
The Our Common Future report (WCED, 1987) suggests that sustainable development should maintain the integrity and diversity of the ecological environment, meet basic human needs, keep options open for future generations, reduce injustice among and between generations, and increase self-determination. The concept is widely accepted by governments and industry representatives (Wall, 2000), and the tourism industry and academia also embrace it. Inskeep (1991) identifies and defines five pillars of sustainable tourism, which include the economic, environmental (meaning natural), and social responsibilities of tourism as well as its responsibility to tourists (meaning assuring visitor satisfaction) and to global equity in development. Behavioral sciences have proven that the actions of residents to the environment where they live and work are influenced by their attitudes toward nature. The point of view on the environment is defined as "a state of mind of the individual towards a value" (Allport 1966) and as "an enduring predisposition to a particular aspect of the environment" (McDougall and Munro 1987).
In the literature, it is discussed that people's actions towards the environment in which they live, may be different depending on their views of nature (Jurowski, Uysal, & Williams, 1997). The values and preferences of residents for the preservation and utilization of development resources can vary based on their views on human relationships with the natural environment (Gursoy, Jurowski, and Uysal, 2002). Jackson (1987) states that "one of the most urgent issues

[52] A reflection on the Alentejo´s residents'perceptions on tourism: Is really there some sustainability? M.ª do Rosário Borges & Joana Lima, Tourism and Sustainability: Case Studies from the Mediterranean Region`, on January 26th, 2022

in the management of resources is the problem of finding a compromise acceptable between use of nature for fun and its protection for ecological, cultural, scientific, historical and aesthetic reasons. These researchers have examined the relationship between environmental attitudes and support of policies to protect the environment and have noticed that two groups are identified: “ecocentric” attitudes and “anthropocentric” ones. The ecocentric approach proposes that humans should live in harmony with nature, while the anthropocentric reflects the view that nature exists primarily to serve the needs of people. Jurowski, Uysal, and Williams (1997) studied the attitudes of people "in terms of their environmental concerns about values and their impact ecocentric support for tourism development. They concluded that ecocentric attitudes of residents have a direct impact on supporting the development indicating a significant positive relationship with the sustainable use of resources on which is based the general development.

Methodology and Data

Research Method

Questions, Objectives, and hypotheses

Based on the literature review and the research objectives, we have formulated questions for the study as follows: 1) How do the residents of Saranda and Ksamil assess the development of tourism in their area? 2) What are their views on nature and the environment?
The objectives of the study aim to test empirically: 1) to know the assessment of residents for the tourism development, and 2) the environmental residents’ attitudes.
Based on the research questions, objectives, and theoretical bases to explain the issues raised, the following hypothesis of the study is defined: The environmental resident’s attitudes in the study area, are anthropocentric and their actions tend not to be in harmony with nature.
This study employed the Linkert scale as a measurement scale for measuring residents’ attitudes about their environment and used individual qualitative techniques for the data collection on the motivations and attitudes of the residents and it distributed 450 questionnaires.

Research Design

On the basis of the literature, the theoretical framework of this study consists of measurement and analysis of two factors: the assessment of residents for the development of tourism and the environmental residents’ attitude in the Saranda and Ksamil areas.
Measuring the attitudes of residents toward the environment, in this study, is estimated by the New Environmental Paradigm, which was originally developed by Dunlap and Van Lier (1978). This view refers to the inevitably imposed limitations of people’s actions over nature, the importance of preserving the natural balance, the need for sustainable economic development, or the need to reconsider the idea that nature exists solely to satisfy human needs (Dunlap & Van Lier, 1978).
The new environmental paradigm considers that: man is capable of harming the natural balance, there should be limits on the economic and human growth of the society and humanity has the right to rule over the rest of nature. The rate of a new environmental paradigm is treated as mass adoption of a paradigm or underlying worldview attitudes, beliefs, and values of the environment. People's attitudes about their environment can affect their actions on the environment and its preservation from damage. This scale of measure has solid content, predictive, and constructs validity, for measuring residents' attitudes to the environment. For the above reasons, this study used a new environmental paradigm as a measurement tool to assess residents' views of nature and the environment.
To ensure the validity and reliability of the questionnaire, this research consulted the mature

scales in foreign references in the process of operational definition and measurement of the variables like motivations and attitudes of the people. For their measurement, the Linker scale was used. Note on this scale indicates a degree of acceptance or rejection of the submission given in it.
In this research, a survey is conducted to get the data required for the study. The preliminary questionnaire was examined carefully and critically by specialists in the field, and revisions are made according to the feedback. Through the process of specialists examining case interviews and pre-test the final questionnaire includes twelve items for the environmental residents' attitudes as shown in Figure 1, with a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree).

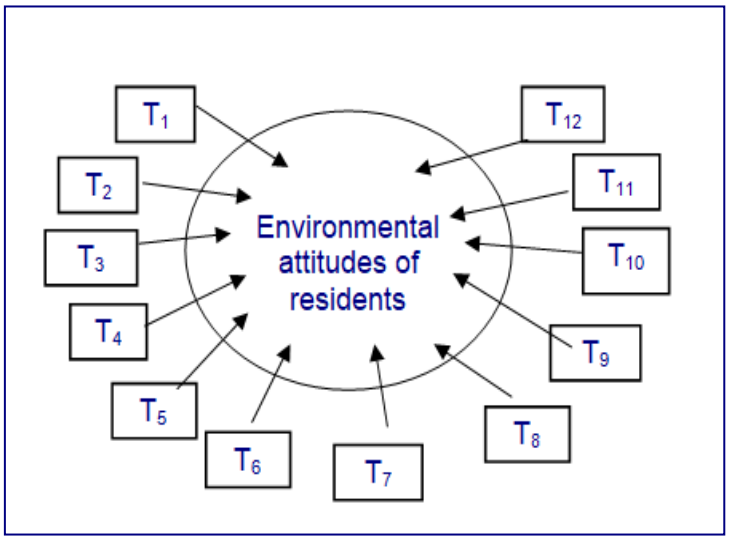

Figure 1. Evaluation path diagram of environmental attitudes of residents
Source: Author

Research Subject

Residents of Saranda and Ksamil Municipality are the subjects of the present study. The target population owns the information we desired to respond to the objectives of this study. Hence, the sample can be considered to be a good representative of the residents in the study area. The survey was handed out to the respondents to avoid any uncertainty that may come up in the answer to the questions. The present research distributed 450 questionnaires and 396 valid samples are collected. Upon receiving the responses, the data was fed into a data file for analysis. Finally, descriptive analysis is carried out using SPSS based on the objective mentioned earlier in the paper.

Results

Results of the assessment of residents for the development of tourism

Tourism is the main direction of the economy in the study area and community participation in its development is very important. To understand how to estimate the actual development of the area, data were received from the questionnaire concerning the answer to the question "How do you assess the development of tourism in your area?" The results of the data according to their evaluation are presented in Table 1. The data shows that 45% of respondents assess the development of tourism in their area to be chaotic and harmful and only 11% of them think that it is appropriate development.

Table 1.

Frequency of residents' responses to the question:

How do you assess the development of tourism in your area?	Frequency	Percentage
1. Chaotic development	165	42
2. Appropriate development	42	11
3. Harmful development	13	3
4. Development that serves community	176	44

Source: Author

Results of measurement of the environmental attitudes of residents

This study employed the Linkert scale as a measurement scale for measuring residents' attitudes about their environment. A high score on this scale means an indication of a highly ecocentric attitude. From the results presented in Table 2, the questions that express the negative impact of the intervention of man on the environment have a consistency degree greater compared with assertions positive as " human intervention in nature often brings disastrous results" (M = 4.29, SD = 1.070), people are very abusive to earth (M = 4.19, SD = 1.057), the natural balance is delicate and easy to be ruined (M = 4.27, SD = 1.033), if it continues like this, soon we will experience environmental disaster (M = 4.31, SD = 0,997). Allegations relating to the human right to rule and change nature have a lower annual average growth rate (M = 3.10 to 3.15)

A high score on this scale means an indication of a highly ecocentric attitude and in this case, the study shows that residents have ecocentric attitudes toward nature and this means they tend to be in harmony with nature in life and their activities.

Table 2.

Descriptive analysis of environmental attitudes of residents

	M	*SD*
Characteristics	*(Mean)*	*(St. Dev.)*
T_1. Humans have the right to modify the natural environment to suit their needs.	*3.10*	*1.609*
T_2. When humans interfere with nature it often produces disastrous consequences.	*4.29*	*1.070*
T_3. Human ingenuity will ensure that we do not make the earth unlivable.	*3.80*	*1.157*
T_5. The Earth has plenty of natural resources if we just learn how to develop them.	*4.63*	*0.787*
T_6. Plants and animals have as many rights as humans to exist.	*4.72*	*0.723*
T_7. Despite our special abilities, humans are still subject to the laws of nature.	*4.40*	*0.904*
T_8. The so-called "ecological crisis" facing humankind has been greatly exaggerated.	*3.68*	*2.897*
T_9 . Humans were meant to rule over the rest of nature.	*3.15*	*1.413*
T_{10}.The balance of nature is very delicate and easily upset.	*4.27*	*1.033*
T_{11}. People learn enough about how nature works to be able to manage it.	*3 .63*	*1.096*
T_{12}.If things continue on their present course, we will soon experience a major ecological catastrophe.	*4.31*	*0.997*

The scale of measurement: 1- I Strongly disagree, 2- I disagree, 3- I neither agree nor disagree, 4- I agree, 5-I Strongly agree

Source: Author

Reliability is essential in any measurement scale and shows the homogeneity of instruments that comprise it. The reliability of this scale was explained by a Cronbach's Alfa in Table 3.

Table 3.

Reliability of measurement variable (Cronbach's Alpha)

The measurement scales	*The number of indicators*	*Cronbach's Alpha (α)*
Environmental attitudes of residents	12	0.642

Source: Author

As seen from the data presented, the measurement scale for both variables has an acceptable level of Cronbach's Alpha coefficient which shows that the scales of measurement are reliable.

Conclusions

The tourism industry is one of the main branches of the economy in the study area and offers many development opportunities but in addition to the potential, there are also threats to damaging natural resources and tourist attractions. In response to this concern posed by the tourism industry, policies and strategies for development are geared toward sustainable tourism, where stakeholders aim to walk the path of holistic sustainability. Responsibility for sustainability is recognized as the responsibility of all tourism actors and the results suggest that residents are a key element in the planning and development of sustainable tourism.

Within this paradigm, residents play an important role, as the community can guide the action of the industry with their choices regarding the tourist offer and the care for the protection of natural resources.

Researchers in other countries have studied and continue to study people's environmental attitudes and how environmental attitudes affect human behavior, related to environmental issues. In the study area, it is important to know to clarify the problem of deteriorating natural resources that concerns all stakeholders affected by the development of the tourism industry.

Based on the descriptive analysis, using the survey data on the assessment of residents for the development of tourism and environmental attitudes of residents, using SPSS, a practical test is done to know the assessment of residents for the development of tourism and their environment. Conclusions are drawn as follows:

(1)Residents in Saranda and Ksamil appreciate the tourism development as a chaotic development.

(2)Residents in Saranda and Ksamil have ecocentric attitudes toward nature in general and the environment.

(3)For these reasons, businesses in Saranda and Ksamil, should not only veer their investments to future development without sacrificing the interests of the residents but also find appropriate tools and methods to guarantee the protection of the natural environment of the area.

(4)Central and local government institutions to improve policies and strategies for the successful management of the tourism industry in search of the right balance between economic growth and the protection of economic resources for today and future generations by emphasizing the good use of natural resources.

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CIRCULAR ECONOMY - THE PREMISES OF BUSINESS MODELS CIRCULAR

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Abstract:

In this paper, we propose to review the theory of the implementation of sustainable business models of the last generation to profit in the circular economy. The circular economy model has become more and more important in recent decades as a replacement model for the classical, linear economic approach, in which products are manufactured, used and then disposed of, with a significant loss of value, due to the depletion of classical material resources, the need to protect the natural environment and develop sustainable businesses. The success of the circular economy concept involves all three dimensions of sustainable development - economic, environmental protection and social dimension, with sustainability being the subject of corporate reporting.

Keywords: *circular economy, sustainability, business models*

JEL Classification*: Q01, Q50*

Introduction

The idea behind the circular economy is that companies have a responsibility to uphold the environmental and sustainable values of society and must answer to stakeholders rather than just their closest shareholders. This has led to research into ways in which management can extend and rethink the traditional make-use-dispose business model. Despite criticism of this view and debate over whether it is realistic to expect firms to venture beyond shareholder interests when developing their business models (to close resource loops and achieve the full material cycle) a growing number of researchers hope that such a transition can address the biggest challenge facing society today. The focus of these discussions has evolved from simplistic arguments about why the circular economy is good, to understanding some theoretical views of the financial results regarding the implementation of circular business models.

In the scientific literature, the circular economy has been developed through research conducted outside the tradition of management and organizational theory, with a primary focus on recycling and waste management, which have traditionally been managed by non-profit organizations. A review of the literature shows that few specialists in strategy, organization or management have used the concept of the circular economy. They focused on describing different circular business models, innovations in circular business models and certain challenges and uncertainties companies face when adapting to the circular economy.

Some recent reports have indicated that very few companies have been able to transform their businesses to compete in the circular economy. The question is why firms cannot transform to compete with business models that are based on the circular economy, and could such a transformation lead to differences in behavior and profitability? Based on these insights, we outline the fundamentals of circular business models and offer a number of insights to explain why circular business models can be profitable and how they can influence competitive advantage.

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1. Definind circular business models

Definitions of what a business model is vary in the literature, but most researchers agree that a business model describes how a company creates and captures value. The characteristics of a business model define the customer value proposition and pricing mechanism. It also indicates how the company organizes itself and with whom it collaborates to produce value, and specifies how the company structures its supply chain. The business model allows the firm, together with its partners, to create value and to appropriate some of that value.

Industrial and technological development, along with global trade, has led to economic growth that has increased human well-being over the past century. However, this development path is rooted in the exponential growth of resource use. The circular economy is essentially an environmental change in response to the global need for a green economy, which requires human economic activities to be consistent with the principles of the three R's: reduce, reuse and recycle. Companies need to replace the linear take-make-waste model with a circular model based on reused, recycled or repaired materials and products.

In a circular economy, closed material loops are a prerequisite, which implies that materials are reused as bulk materials, products or components. Whenever feasible, reuse and remanufacturing are preferable to recycling for economic reasons, as much of the value added in the original manufacturing process remains in the components. In this context, a circular business model is designed to create and capture value while helping to achieve an ideal state of resource use (e.g. finding a model that most closely resembles nature and that approaches of achieving complete material cycling). So the purpose of the business model shifts from making profits through the sale of products or artifacts to making profits through the flow of resources, materials and products over time, including the reuse of goods and the recycling of resources. Thus, companies can reduce the negative impact on the environment by providing and capturing value by proposing alternative value. However, achieving such a transformation requires close collaboration and coordination between actors in industrial networks to achieve tight or slow material loops. Based on these perspectives, the circular business model definition explains how a firm uses innovations to create, deliver and capture value by implementing circular economy principles, whereby business rationality is realigned across the network of actors/stakeholders to achieve benefits of environmental, social and economic.

For example, in Europe, the European Parliament approved a circular economy package that includes a series of political measures and actions to reduce waste. Targets have been set for EU member states for the recycling of materials, including packaging, plastic, wood, ferrous metals, aluminum, glass, paper and cardboard.

2.The structural influence of the circular economy and models of circular business

One perspective that can help elucidate the management challenges associated with circular economy implementation is based on the conceptualization of environmental change and the need for structural adaptation through realignment to fit the environment. Changing business models is the main way companies manage alignment or realignment.

From this perspective, management and companies must create/enhance value by configuring/reconfiguring new or existing resources. Companies are rethinking how they pool resources and constantly redistributing internal resources to become congruent with environmental demands and conditions. This typically requires a shift to a circular business model with large upfront investments and longer time horizons for revenue generation. These requirements lead to challenges for companies, as they may need large capital reserves to "wait for the money". Also, shareholder approval can be difficult to obtain because this

approach does not fit the short-term time horizon of shareholders. Studies have shown that although the costly and risky implementation of circular economy principles is not implemented, managers are intrigued by the perception of growth potential and an increased need to manage market turbulence by adapting circular business models.

Slow implementation of a circular business model is inherent in established firms due to organizational inertia and resistance to radical transformation. More specifically, while managers in companies that continue with the linear model can plan and predict their future based on historical data, for managers in firms that move to a circular business model, the value in making a future forecast is limited. Limits on resource and energy use and the importance of targeting value creation in terms of closing loops (i.e., seeing the world as a "system" in which waste is minimized) underpin the rationale of the circular economy. The implications of this reasoning are significant: many companies may need to change their entire value chain. In this context, one of the most complex challenges is establishing and organizing the activities of the reverse value chain, which covers all the activities of the firm, from the return of the products to the potential recovery of the maximum value of the products through recycling and up cycling activities. Therefore, companies are slow and managers hesitate to make pioneering changes. On the other hand, moving to a circular model can offer enormous opportunities, including cost savings through reduced waste, better supply chain management, and lower sensitivity to resource price volatility, and better customer relationships. The shift to a circular economy also boosts innovation, creates jobs and benefits the environment. Consequently, since structural alignment decisions are made at the top level, the creativity, ability and commitment of top managers are highly relevant factors for research examining the shift to circular business models.

3.Transaction costs and contracts between partners for circular business models

Uncertainties surrounding the circular economy mean that firms risk facing unforeseen and high contracting costs because they cannot contract partners, lack the competence to formulate contracts detailed enough to secure their interests, or enter into complex contracts because they cannot visualize the challenges they will face during the transition. Therefore, transaction cost theory is particularly useful for understanding how partners and collaborators design contracts to secure mutual benefits. Transaction cost theory can help us understand how companies can successfully close material loops and develop close collaborations. These collaborations enable companies to address adaptation and pressures arising from sustainability concerns and increased environmental responsibilities together with partner companies in the value chain. The extent to which companies can learn how to specify circular transactions, reduce high contract costs, and develop contracts specific enough for the circular economy may determine how successful they will be in creating value in these new economic conditions. It is imperative for management to understand the supply chain as well as its parts (i.e., individual companies and their relationships) when implementing circular economy principles such as recycling and extended sustainability services.

Moving from a linear business model to a circular one with increased efficiency, recycling and sustainability may require investment from all parties involved in a given company's collaborative network. As all parties coordinate their efforts to make relationship-specific investments whose value depends on the success of the collaboration, this mutual commitment should reduce the risk of selfish behavior by the parties and mitigate the need for firms to use collateral to protect their interests. Thus, circular networks can reduce transaction costs resulting from the implementation of contracting and control mechanisms.

For manufacturers, the first step is to redesign products so that they are suitable for remanufacturing. Products should be designed with environmentally friendly raw materials, parts and components, and product design should facilitate easy disassembly for reuse and recycling. The importance of design is not only about product features, but also about minimizing energy and resource consumption during production. According to the Ellen MacArthur Foundation guidelines, a basic principle of the circular economy is that products should be designed so that there is no waste, meaning that products should be designed and optimized for a cycle of disassembly and reuse. For the manufacturer, capital tied up in physical investments such as factories and remanufacturing facilities carries considerable risk. As the initial investment for remanufacturing products is considerable, larger firms with access to resources are more likely to meet the criteria of the circular economy. In addition, effectively addressing the challenges that may arise with the implementation of a new circular business model will likely prove difficult due to contractual uncertainty. Parties that cannot provide all the details in a contract will have to include penalties or rewards to account for disturbances that may arise in order to avoid drawing up exhaustive contracts. Therefore, larger firms may have advantages in setting the contractual agenda and participate in the most significant parts of the shift to a circular business model. While small and medium-sized enterprises (SMEs) can enter (often global) value chains and realize the benefits of the circular economy, they must meet the requirements that larger companies specify in their contracts. However, due to the adaptive limitations of contracts, the uncertainty associated with the circular economy and the difficulty of designing ex-ante profitable circular business models, a joint steering committee consisting of companies that have joint authority over a limited number of activities could provide an alternative when non-dominant companies are involved in creating new collaborative systems to implement a circular business model. Thus, to understand the extent to which companies successfully transition to circular business models it is important to consider the characteristics of partners, contracting possibilities and the ways in which companies adapt to uncertainty and prevent potential disputes through contracts and contractual devices.

4. Resource based influences and circular business models

The companies adapt to changing requirements, trends and environments by reconfiguring resource portfolios. Studies have shown that firms face difficulties in changing resource portfolios because they limit the directions for new investments. A firm's management must constantly assess, measure, and reconfigure the firm's resource portfolio in response to market and societal needs, social changes, and technological advances. A company can configure its resource portfolio by adding, combining or replacing new resources with old ones.

Consistent with the scale of change, the few studies that have examined the circular economy have suggested that to manage and overcome the challenges of the return flow, producers often need to rely on the capabilities and resources of their partners. Here, however, the entire circular system can collapse if only one partner in collaboration fails to meet its contractual obligations. This risk is particularly strong for business models that focus on:

- resource recovery through industrial symbiosis and closed-circuit recycling (through which waste is reprocessed into new resources);
- extending the life of the product through remanufacturing and reuse.

A circular business model requires multiple types of resources and capabilities that focus on collecting or sourcing otherwise wasted materials to transform them into new forms of value, or that focus on designing long-lasting goods and extending their lifespan product life. Firms need to invest in flow tracking technology to collect information about the location and status of product returns as well as the product lifecycle. Accurate information on the timing and quality of product life cycle status or returns is necessary to manage return flows, especially

when rates of return are high or when life cycle contracts are the core of the value proposition. To ensure high return rates it is important to determine how to collect used products, by whom and where collection points should be located to ensure customer coverage. After the collection of used products, recovery may involve reselling, remanufacturing or recycling the products through a series of processes such as collection, inspection, separation, etc. Therefore, for a circular business model to succeed, it is important that investments in financial, human and physical resources are aligned with the information technology used in the reverse logistics process to improve communication with partners, to integrate information into the company's activities and to improve responsiveness.

In circular business models, where ownership of the product is retained, customers only access the product at the time of purchase. This type of product-service offering consists of using or receiving the output of the product (customers could, for example, rent physical products, such as paying for access to a bicycle). The adoption of such models increases the importance of complementary services and resources to extend the life of the product. Many manufacturers employ independent service agents to perform warranty maintenance under a properly drafted contract. This approach creates the opportunity to invite collaborators to develop resources and thereby participate in the co-creation of value. After-sales services include installation, warranties, extended warranties, maintenance service contracts, spare parts supply, training programs and product upgrades. When post-service activities are outsourced, manufacturers and service providers must align their interests. After-sales services are also important in situations where products are disassembled and usable items are cleaned, repaired and inventoried. Recovered parts thus become an alternative to new parts. So, when making investments to replace a linear business model with a circular one it is important for firms to consider the resource requirements that relate to after-sales services. Because these investments help ensure customer satisfaction and create long-term relationships that involve periodic payments, they play an important role in making businesses sustainable. Consequently, after-sales requirements must be integrated into the innovation process to ensure that product specifications enable professional after-sales services.

The need for investments and adjustments to achieve the closed material loop as well as the transformation to the circular business model varies according to the nature of the activity, requires significant changes and costs of the company. This is due to the need to introduce radical innovations to meet today's challenges. Large companies are in the process of changing from a linear to a circular business model. By adopting the circular business model, these corporations can use sustainability-oriented actions (egg, product redesign, increasing product life, and adding recycling functionality) as measures to achieve improved reputation and increased revenue.

Moving from a linear to a circular model can be difficult for a firm if its value chain collaborators are not willing to make the necessary investments and adjustments. Substantial switching costs could be involved in changing business models. Creating a circular business model can be a first step towards dissolving previous alliances. In other cases, this transformation requires those companies to improve their material selection and change their current supply to non-toxic, pure raw materials. Consequently, the decisions of manufacturing companies regarding product design and choice of materials influence the selection of network partners.

5. Industry and structural influences in circular business models

The implementation of the circular economy involves the formation of new markets understood as early stage business environments where companies offer and compete with a new type of business model based on the search for profits from sustainable alternatives. These business models involve substantial uncertainty regarding profitability. The type of markets in which

firms compete may have an unclear industry structure, unclear or absent definitions of "product," and a lack of logic to guide actions and identify appropriate behavior.

Despite the uncertainty surrounding industry structures emerging from sustainable disruptive innovations, some potential effects can be foreseen. One of the most prominent trends resulting from the transition to a circular business model is the reuse and recycling of assets. If reused materials are just as valuable or have a higher and more durable value due to up cycling, manufacturers will switch to reused materials as long as the prices do not differ substantially. The presence of substitutes affects the competitive intensity within an industry, to the benefit of producers who have greater bargaining power. If the mission of manufacturers is to reduce waste, suppliers of raw materials that do not adapt to changing trends may struggle to survive in the market. In industries that are severely affected by the challenges associated with resource scarcity and increasing demand, suppliers may have to increase the price of reused materials. In the long term, minerals, metals and energy sources must be replaced by renewable alternatives.

For the sake of profitability and "survival" of the industry, innovations become the main factor in finding solutions for the constant supply of the necessary materials (for example, 3D printing technology in production that allows manufacturers to use a just-in-time production model versus just- in-house). This development led to demand-driven production, smaller batches and less need for excess inventory, all of which reduced resource requirements. The optimal use of resources in production strengthens the bargaining position of manufacturers in relation to material suppliers, and the decreasing demand for materials due to technological improvement decreases the dependence of manufacturers on suppliers.

The short-term effect of the transition to circular business models is the outsourcing of reverse logistics operations from manufacturers to third-party suppliers. These mainly include: transportation, warehousing, inventory, value-added services, information services and supply chain reengineering. New types of industrial structures, which are characterized by concentration and market power, influence network relationships, firms' network positions, and industry performance.

If a manufacturer's redesign of a product differentiates it, collaborators in the reverse supply chain may be required to develop unique expertise, for example, to disassemble, inspect, and repair used products. In other words, the shift from a linear to a circular business model may also require substantial investment from third-party service providers. High investment requirements create barriers to entry into the manufacturing circuit, which limit the number of potential collaborators, which may make a manufacturer selective when establishing business alliances. Thus, the transition to a circular system can result in industrial structures with a high degree of concentration, meaning that the industry is dominated by a fairly small number of actors in its early stages. In highly concentrated industries it is important that actors in the network build and maintain collaborative relationships because mutual dependencies are significant. Therefore, the shift to the circular economy can lead to industries with strong links between companies. Typically, high industry concentration with a small number of companies connected by a network of intra-firm ties tends to lead to high industry profitability. At the same time, companies that address the challenge of doing business in the circular economy by building strong and close positions in emerging industries and markets are expected to succeed.

There are other significant differences in circular economy implementation between manufacturing firms. In their circular designs, some manufacturers have focused on modularizing their products and components to facilitate their disassembly and repair for reuse. This approach implies that firms use the same products or components in different product categories, thus leading to more homogeneous products. In this case, it is much easier for manufacturers to find third-party service providers who can disassemble and inspect used

products, since the requirements for doing so in terms of training; specific skills and expertise are relatively low. This situation improves the bargaining position of manufacturers vis-à-vis such service providers by reducing switching costs.

Also, the low investment requirements of service providers increase competition, making it easier for new players to enter the industry. High competition (implying less concentration) between these firms allows manufacturers to occupy a central position in their strategic networks. If manufacturers can switch third-party suppliers at relatively low cost, relationships may become distance ties rather than relationally embedded ties. However, for third-party service providers, the easy and fast processing of returned products due to increased modularization or standardization can provide opportunities to gain advantages by serving multiple manufacturers, which can lead to cost advantages. However, this trend of products becoming easier to disassemble for repair also brings new challenges for manufacturers. Thus, the trend appears to be toward increased standardization in the form of modular device design, collaborative networks with small service providers, and online communities that help large manufacturers achieve green goals.

Conclusions

Studying and understanding the degree of uncertainty that exists for companies that want to move from the linear economy to doing business in the circular economy is important to the success of this transition. The aim of this paper was to develop a theoretical basis for understanding how firms can profit in the circular economy and why firms may not be able to successfully transform their existing business models into competitive circular economy business models.

Effective management and company creativity, along with the ability and commitment to change are important for companies to initiate a new generation of business models. Uncertainties surrounding the circular economy hinder the ability of companies to act with limited contracting costs because they cannot or do not have the competence to formulate sufficiently detailed contracts. When resource investments are made to support circular business models, managers face organizational inertia and internal challenges that must be overcome when building the new types of resources needed. As such, the resources and capabilities needed to compete in the circular economy should be the focus of future research.

Partners in a reverse supply chain must develop unique expertise to provide various end-of-life inspections and repair services. In other words, moving from a linear business model to a circular business model can sometimes require substantial investment from third-party service providers. From an industry perspective, we expect that the modularization of product components and other important trends in industry management will improve the bargaining position of manufacturers' vis-à-vis service providers by reducing switching costs.

Customer responsibility increases when companies develop circular business models. Customers can misbehave by damaging or mishandling products when companies offer long-term contracts to ensure the highest possible standards of sustainability.

According to the transaction cost theory, the failure of companies to enter the circular economy and compete with such business models would be represented by the lack of success in minimizing the sum of production and transaction costs. Indeed, perhaps the reasons for this failure are high asset specificity, uncertainty and perhaps even the risk of opportunism on the part of regulatory bodies and larger market players setting environmental policy. As such, we believe that further efforts by specialists are needed to provide theoretical explanations of the real bottlenecks for the circular economy and why companies are late to compete and from a sustainability point of view.

In general, it is clear from the theoretical background that firms entering the circular economy with innovative business models to address sustainability concerns face a highly uncertain environment. In this environment customers and their behaviors are sometimes unknown or undefined, and product attribute needs are uncertain. Furthermore, there is no clear or established value chain and no value delivery mechanism based on what has been widely researched and propagated within the traditional make-use-dispose business model.

When a company moves to a circular business model, reverse logistics networks must be established. There are often substantial advantages for a manufacturing firm to outsource activities related to reverse logistics operations. Such operations may lead to alliances with collaborators who have developed the expertise, sophisticated logistics networks, technology and capabilities to operate logistics systems efficiently. Manufacturers do not need to develop expertise in these areas. Instead, they can rely on specialized experts and enjoy the advantage of having contractual relationships with several manufacturers. This outsourcing contributes to the development of networks in which dependencies are built between companies in terms of the resources and capabilities they possess. Mutual dependence and relationship-specific investments by network companies encourage trust, reciprocity, and information sharing.

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THE DYNAMIC OF THE FOREIGN DIRECT INVESTMENT LEVEL IN WESTERN BALKAN COUNTRIES AND ITS IMPACT ON ECONOMIC GROWTH

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Abstract

Foreign Direct Investment (FDI) significantly impacts host economies' economic growth and development and international economic integration through globalization. This study investigates the dynamic of Foreign Direct Investment (FDI) in the last ten years in WB countries and the impact of this indicator on economic growth. This study will use secondary data obtained from World Bank indicators and, through descriptive analyses, will analyze the dynamic of FDI in the countries under study. This study concludes that FDI positively impacts the economic growth of a country, and this indicator has had a positive trend over the last years in Western Balkan countries.

Keywords: *FDI, WB countries, economic growth, globalization.*

JEL classification: *E010, F630, O110.*

Introduction

The notion that foreign direct investment is essential for the group of WB countries is frequently addressed in international and domestic literature in the countries under consideration. Kathuria et al. (2008) argues that since these countries have large current account deficits, the most apparent reason for their low investment rates appears to be low domestic (private) savings. As a result, the need to attract foreign investors is evident because, without investment, there will be no growth or catching up. The other reason is that foreign investors are expected to increase the average productivity of the economic activity in which they invest, which could lead to new investment opportunities. Thus, even with the same level of current account deficits, the authors argue that countries with a higher share of FDI would have higher investment rates, improving the speed of catching up.

The anticipated positive outcomes may not be realized despite political advocacy for investment promotion. According to the OECD (2010), all SEE countries have institutionalized their desire to attract more foreign investment by establishing investment promotion agencies. The preliminary results of the available data are encouraging. Southeast European countries relied more heavily on foreign direct investment as a source of financing than other transition countries. According to available data, only Albania had roughly the same share of inward FDI

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in GDP as the European Union average between 2000 and 2008. All the other countries could attract more FDI than their economies could support.

Foreign direct investment has much potential for the Western Balkan countries of Albania, Bosnia, and Herzegovina (BiH), Montenegro, North Macedonia (NM), Kosovo, and Serbia. International flows catalyze macroeconomic and microeconomic growth: FDI generates capital inflows and allows host economies to expand their economic opportunities by opening their markets to higher volumes of international trade; it also stimulates domestic business competition, resulting in more job opportunities and growth in GDP per capita; and FDI precipitates technological shifts, necessitating employee training and transferable skills, ultimately contributing to the advancement of the economy.

Foreign Direct Investments, especially in the Western Balkans region, help these economies improve social welfare, reduce unemployment and promote economic growth in each sector. In Western Balkan countries, unemployment rates are currently higher than in other Balkan countries and among the highest in Europe. The level of unemployment in Albania and Serbia in 2020 was around 12.8%, 15% in Montenegro, 17% in NM, and 18% in BiH. The highest value is registered in Kosovo, approximately 25%. Higher unemployment rates have also resulted in increased outflows of WB citizens seeking economic refuge in Western Europe, exacerbating the region's demographic problem and depleting the workforce required to boost the WB6 economies.

Increased FDI allows the economies to catch up with the better-performing ones, allowing them to recapture and exceed their post-socialist economic peaks. Current GDP per capita growth rates differ by region: Albania, Bosnia and Herzegovina, and Montenegro have declined since 2018, while Serbia and Kosovo have reached a plateau. When viewed in a comparative context, these statistics are less encouraging: even during periods of economic growth, current GDP per capita rates in several WB countries are lower than a decade ago. To illustrate, over the last 12 years, Albania's annual percentage growth rate in GDP per capita has fallen to roughly one-third of the country's 2008 growth rate of 8.3%. While the country's economy grew from 1.2% in 2013 to 4.3% in 2018, its current 2.7 percentile growth rate is less than a third of the 8.3% growth rate in 2008 and approximately 37% lower than the 4.2% growth rate achieved by Albania in 2010 despite the 2008 economic crisis.

The current socioeconomic conditions in the region provide the impetus for WB governments to encourage more significant foreign investment to foster economic development. Despite common incentives to attract more inward FDI, the WB6 governments differ in their ability to do so effectively. Individual country factors such as policy reforms to encourage FDI, economic growth potential, and institutional measures to ensure accountability and investor rights drive this variation.

It is widely acknowledged that FDI significantly impacts host economies' economic growth and development, as well as international economic integration and globalization. This integration entails the transformation of most modern technologies, the development of managerial and organizational skills, and the application of modern marketing techniques. Foreign direct investment is increasing due to increased productivity and efficiency in economic growth in both developing and developed countries. To that end, many countries have devised and continue to promote FDI policies and to continue to increase the flow of FDI into their respective countries.

Numerous factors can influence a business's potential and risks, and actions in individual locations can influence them. These factors can be included in three broad groups: domestic policy framework concerning FDI, business facilitation, and economic motive. On the other hand, the economic determinants of FDI can be divided into three categories that reflect the primary motivation of foreign firms to invest in host countries: market research, resource research, and efficiency research.

Conversely, globalization manifests itself in various economic, political, social, military, cultural, religious, and environmental aspects. All of these factors have a distinct and unavoidable impact on the economies of the host countries. However, the economic dimension of globalization has a profound impact on a country's level of economic development.

The third wave of globalization has emerged in the last decade, with a robust economic connection primarily from FDI flows. According to the OECD[56], globalization includes multidimensional economic integration, in which economic conditions and especially national resources become more fluid at the inter-border level while national economies become increasingly interdependent. Foreign direct investment appeals to all developed, developing, or transitioning countries. As a result, these countries compete for FDI, mainly if located in the same geopolitical region as the countries under consideration in this study. According to several studies, FDI generates economic growth in the host country[57]. Many studies show this and other direct and indirect effects (spillovers).

As a result, FDI improves a country's domestic competitiveness by influencing productivity growth, lower prices, and increasing resource efficiency. Furthermore, because FDI flows do not create debt, they are a preferred method of financing external current account deficits, particularly in developing countries where deficits can be significant and sustained (Ribakova et al. 2005). If we concentrate on the countries in the region that have experienced a period of transition, followed by numerous crises and armed conflicts, and then more destruction of resources and capital, FDI is regarded as a critical component that will contribute to economic growth and development by assisting in the long-term structural changes.

Various studies ((Ribakova et al., 2005; Estrin and Uvalic (2014); Topxhiu and Radiniqi (2018)) show that the level of FDI flow has decreased these last ten years in the Western Balkan region. Estrin and Uvalic (2014) consider the so-called "Balkan effect," which states that the region's unfortunate recent political history, which includes conflicts, fragmentation, and low growth, has had an independent effect on their prospects for FDI receipt. Whereas Wang et al. (2020) estimate that the FDI scale has shrunk in recent years compared to developing economies, developed economies have experienced violent fluctuations in FDI flow.

The level of FDI in WB countries after the financial crisis

The countries of the Western Balkans region, which have the status of candidate countries, will have more significant economic growth this year than expected, according to the report of the European Commission (2022). Like in the EU countries and these region states, growth took off in the three quarters of this year and helped economic recovery. In countries like Albania and Montenegro, the highly successful tourist season contributed the most to the economic growth above the previous forecasts. In the case of Albania, mainly the arrival of a large number of tourists from neighboring countries, but also public investments, has influenced. In countries like Serbia and North Macedonia, the main driver of economic growth is increased household spending and demand. In the case of Serbia, significant public investments in infrastructure projects have also contributed significantly to economic growth.

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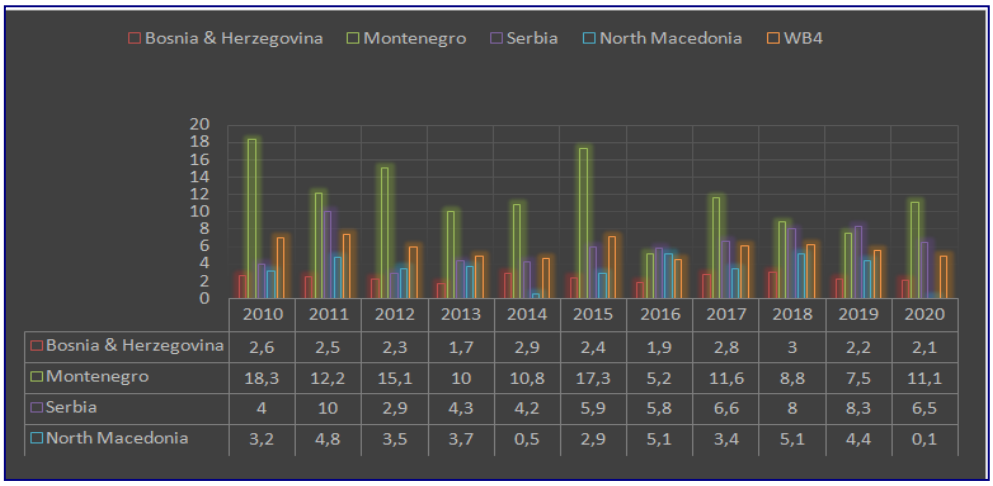

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Bosnia & Herzegovina	2,6	2,5	2,3	1,7	2,9	2,4	1,9	2,8	3	2,2	2,1
Montenegro	18,3	12,2	15,1	10	10,8	17,3	5,2	11,6	8,8	7,5	11,1
Serbia	4	10	2,9	4,3	4,2	5,9	5,8	6,6	8	8,3	6,5
North Macedonia	3,2	4,8	3,5	3,7	0,5	2,9	5,1	3,4	5,1	4,4	0,1

Graph 1. The level of FDI in Western Balkan countries

Source: World Bank Indicators, 2020

Despite the tremendous economic growth, the region's countries continue to suffer from a high level of unemployment, which is well above the average of the European Union. While the average in the EU is 7 percent, the WB countries have an unemployment level above 10 percent, despite the easing of unemployment expected by the end of this year.

While the FDI inflows dropped by 13% to USD 1.3 trillion globally, the Western Balkans, designated as Southeast Europe in the report and categorized as part of a broader region of transition economies, recorded a 33% growth, amounting to EUR 7.4 billion. According to the report, North Macedonia recorded the most significant growth in FDI in the Western Balkans, which stood at 260%. The value of FDI in this country grew from USD 205 million in 2017 to USD 737 million in 2018. *Serbia was the second* largest FDI recipient among transition economies as the FDI inflows grew by 44% to USD 4.1 billion, driven by a surge in new equity capital. Montenegro was the only country to record a decline in FDI by 12% to USD 490 million, whereas Bosnia and Herzegovina recorded a growth of 4%, amounting to USD 468 million in 2019. FDI in Albania increased by 13% to USD 1.3 billion in 2018. Despite this, it is more important to mention that a large amount of foreign direct investment went directly to the non-tradable sectors of these countries. So, foreign direct investment inflows did not contribute to the export capacity and thus did not help solve the countries' external imbalances in the long term. However, Western Balkan countries must undergo structural reforms to provide economic stability and attract foreign direct investment to support the export sectors.

Foreign Direct Investment (FDI) contributions to the Western Balkans (WB) economies have been relatively significant in recent years, especially in the manufacturing industry sector, creating thousands of new jobs and supporting economic growth, innovation, and technological progress. In 2018, the countries with the most significant foreign investors were Montenegro, with 8.8 percent, Albania, and Serbia, with eight percent[58]. Foreign investments in the region come mainly from EU Member States (Austria, Germany, Greece, Italy, the Netherlands, and Slovenia), the United Kingdom, the United States, and the Russian Federation.

[58]https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Western_Balkans-EU_-_international_trade_in_goods_statistics&oldid=479958#The_Western_Balkans_trade_with_the_EU_and_other_main_partners, 2019.

Conclusions

The primary role of FDI, especially in developing countries, is to influence the economic growth of these countries, as well as to reduce the unemployment rate and increase the income per capita. The current socioeconomic conditions in the region provide the impetus for WB governments to encourage increased FDI as a tool for fostering economic development. Despite common incentives to attract more inward FDI, the WB6 governments differ in their ability to do so effectively. Individual country factors such as policy reforms to encourage FDI, economic growth potential, and institutional measures to ensure accountability and investor rights drive this variation. While the FDI inflows dropped globally, the Western Balkans, designated as Southeast Europe in the report of the European Commission, recorded a 33% growth, with North Macedonia recording the most significant growth in FDI in the Western Balkans. In conclusion, it is crucial to mention that a large amount of foreign direct investment went directly to the non-tradable sectors of these countries. So, foreign direct investment inflows did not contribute to the export capacity and thus did not help solve the countries' external imbalances in the long term. Thus, Western Balkan countries must undergo structural reforms to provide economic stability and attract foreign direct investment to support the export sectors.

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FINANCIAL, ECONOMIC, DIGITAL AND ENVIRONMENTAL INCLUSION IN THE CONTEXT OF GLOBAL AGREEMENTS

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Abstract:

The G20 **Financial Inclusion Action Plan (FIAP)** came at a time when multiple crises have gripped the entire society, especially as a result of the effects of the COVID-19 pandemic, the effects of climate change, as well as conflicts around the world. We have been and are witnessing these major disruptions with a direct effect especially on disadvantaged segments such as SMEs, women, the poor and small farmers. During the pandemic crisis, states prioritized and invested in digital public goods (including payment systems for vulnerable and disadvantaged groups) and regulated the enabling and specificity elements for digital financing, an aspect that led to a digital financial infrastructure that would provide financial support quickly for emergencies. Moreover, in this paper we aim to highlight the financial instruments found in global agreements and which are pillars of sustainability for the economies of states and for sustainable societal development.

Keywords: financial inclusion, financial instruments, sustainability, international agreements

JEL Classification: G02, G23, Q56, O19

Introduction

In the current context of current challenges, we have witnessed particular disruptions to economic activities and we could even mention threats to socio-economic life, especially for disadvantaged segments such as SMEs, women, the poor and small farmers.

Their access to vital financial services, as well as digital financial inclusion, have proven to be powerful tools of support and resilience, moreover they are supported in their recovery and integration process. At the same time in the last period of time, states have invested in digital public goods, such as digital IDs and that are interoperable in payment systems and have established enabling regulations for digital finance, they have been able to provide rapid adaptation in emergency situations, they generated government payments for the most vulnerable and disadvantaged groups.

These actions reaffirm the importance and urgency of continuing studies on financial inclusion and the implementation of the G20 FIAP 2020 over the next three years. Moreover, the recommendations to be expanded in access and quality use of sustainable financial services that take into account the well-being of clients and contribute to better outcomes. From the beginning of our decision to approach this topic of our work, we asked ourselves the natural question about the priority of this topic, namely financial, economic, digital and environmental inclusion in the context of global agreements, prioritization which was also generated by the fact that financial inclusion has been included in the work of the global financial standard setters (GPFI), as well as the commitment to support the SDGs under the Global Green Deal and under the European Green Deal.

Since the inception of GPFI nearly a decade ago, financial inclusion has made impressive strides. As of 2018, 3.8 billion people have access to formal financial services. This represents almost 70% of all adults, compared to 51% in 2011. However, at this time, when people need

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basic financial services to protect themselves against hardship and to invest in their future, we have to ask if we advance fast enough and if the quality of their inclusion is still sufficient. To this end, the FIAP G20, 2020 recommendations will be implemented to succeed within the simplified structure, accountability framework and administration of the new strategic priorities at global and European level.

The last decade has been one of challenges and advances in inclusive finance, namely digital financial inclusion, where technology and internet access are changing finance and how the many financially excluded access and use services in a variety of sectors. In this paper, we present how digital financial transformations were generated, especially in the context of the lockdown due to COVID-19, stimulating at the global level at the same time financial innovations that reduce the social inequality gap. Moreover, financial innovations developed through Fintech mainly help women to be included financially. The results of the paper highlight digital fintech financial innovations in partnership with financial-banking institutions, namely how technological applications adapted to the needs of the excluded can be combined with traditional financial instruments to meet the financial needs of the unbanked.

In the paper *Fintech digital financial technologies and inclusive finances* (Manta, O., 2021) I presented the concept of "*FinTech*" is an abbreviation of the terms "financial technology", which refers to the application of technologies in finance or more precisely to the financial solutions offered by technologies. Currently, the *FinTech industry* is considered to incorporate start-ups that provide traditional financial services. The interconnections between finance and technology already have a long history, and that neither begins, nor is limited, to the terms of crypto assets (the concept of cryptocurrency is known) or blockchain technology, about which in recent years, information agencies and publications communicate to us daily internationally renowned, such as Reuters, Bloomberg, The Economist, etc. In some discussions devoted to the history of FinTech, it is argued that the origin of the term should be considered the beginning of the use of the telegraph in the transmission of information and financial data for commercial purposes (year 1838). The period from that moment until 1967 was generically called the *FinTech 1.0 era*, followed by *FinTech 2.0*, which lasted until 2008 and was marked by the digitization of financial services.

The *FinTech 3.0* era, especially the years 2014-2016, was marked by an explosion of start-ups oriented towards the creation, development and sale of a spectrum of fundamentally new financial services, as well as the creation and provision of the infrastructure necessary for the smooth running of activities traditional financial-banking, among which we list: crowdfunding operations; peer-to-peer lending; issuance of cryptocurrencies; portals with business solutions for entrepreneurs, which also integrate financial management solutions, e.g.

The digital revolution has greatly influenced all areas of human activity, but the most essential impact is exerted on human behavior, which has undergone major and radical changes due to the penetration of mobile phones and the Internet into the daily routine of all people, regardless of the level of education, qualification, status financial or field of activity, etc. The main challenge arising from this will be the ever-changing demand from customers, who will demand a quality of banking services similar to that of information technology, and banks must be ready to adjust their offer quickly. FinTech generates new solutions for risk management, but also induces new risks for banks or intensifies traditional ones. For example, the blockchain, currently representing the sustainable technology for preserving anonymity, from another perspective is also the technology that can transform bitcoin transactions from anonymous to identifiable, authenticating identity in a much more robust way than anything that already exists. In this way blockchain positively contributes to compliance risk management by complying with KYC (Know Your Customer) and AML (Anti-Money Laundering) laws. This fact will contribute to the acceptability of cryptographic currencies from the perspective of states, as well as the capitalization of other advantages. Another example is related to increasing the speed of access to banking services, which implicitly also contributes to increasing the volatility of deposits, which in extreme situations can cause "virtual bank failures".

The medium-term phenomenon, the Fintech era associated with the phenomenon of financial inclusion, will most likely be marked by the development of artificial intelligence, which will certainly further revolutionize financial activity and influence the structure of the financial market.

Research Methodology

The methodology of the paper has as direct tools the collection of data and information from the specialized literature and from the existing global practice in public and private higher education institutions, but especially the scientific articles published on specialized research networks (Research Gate, Academia.edu, MDPI, SCOPUS, Frontiers, RePec, and others networks), articles published in various journals, relevant books in the field of reference, legislation, analysis and studies, official documents of the various institutions for quality assurance of higher education institutions, other relevant sources. Moreover, in the methodology, we will analyze the documents using the comparative, analytical, descriptive method, without participatory and participatory observation and the use of a set of information sources, data collection in established databases.

Results and Discussion

The Essential Role of Mobile Money: Fostering Inclusion and Resilience, Mobile Money is a key enabler of financial inclusion, fostering resilience and access to the formal economy. Since its inception, African Mobile Money providers have been pioneers, disrupting the financial industry and driving financial inclusion. Currently, almost half of the 1.2 billion registered Mobile Money accounts are in sub-Saharan Africa.

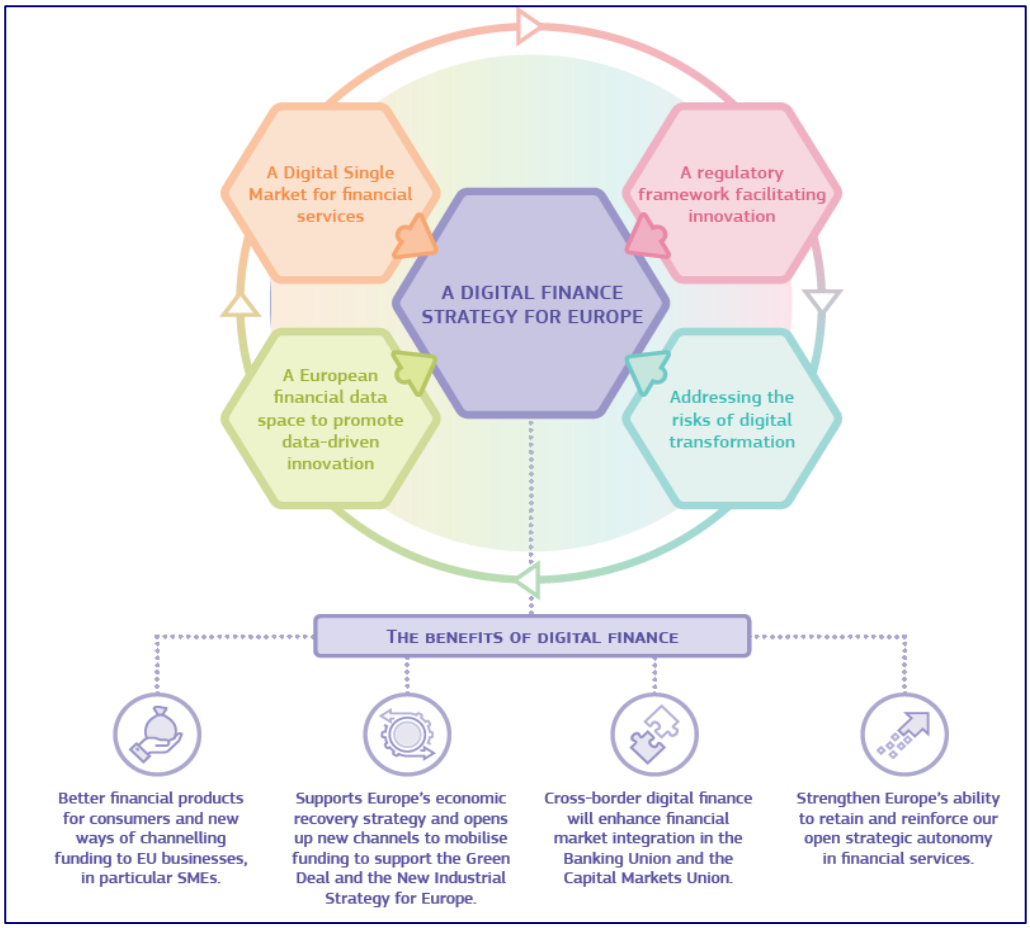
In the past year of unprecedented circumstances, we have seen how critical Mobile Money providers are in enabling the poorest sections of the population to remain financially active and acting as a lifeline for sending and receiving financial support – from governments, banks or humanitarian organizations.

This session, led by the GSMA Mobile Money team, focused on the state of the Mobile Money industry in Africa, based on data from the GSMA State of the Industry Report. It discussed how partnerships between providers and fintech's can boost financial inclusion and improve resilience to shocks such as climate change and COVID-19, and explored the role of governments in fostering enabling environments.

The presenters were also joined by Ashley Olson-Onyango, Head of Financial Inclusion and Agritech, GSMA and Brian Muthiora, Regulatory Director, GSMA, for Q&A and discussion. We can say that in the current conjuncture characterized by the sustainability of the FinTech industry, banks and traditional financial institutions are going to radically change their development strategies and fight to maintain their position on the market of financial products and services with increasing social and regulatory pressure to move towards ecological and sustainable practices. In the author's opinion, one of the ways to maintain their role in the financial industry is openness to the assimilation of innovations. However, a major problem raised by the development of the FinTech industry is the need to adjust the regulatory framework and financial supervision to the new realities. We find big lags here, as many aspects of technological innovations, which are already widely used, are not yet regulated and therefore cannot be supervised, and it is not excluded that they threaten the financial stability of national economies and, as a result of the world economy. In this context, adapting and synchronizing the legislative framework and banking supervision to the rhythms of the development of financial technologies must represent an imperative in the national and international political agenda.

The future of finance is digital: consumers and businesses are increasingly turning to financial services digitally, innovative market participants are implementing new technologies, and existing business models are changing.

Digital finance has helped citizens and businesses cope with the unprecedented situation created by the COVID-19 pandemic. For example, online identity verification has enabled consumers to open accounts and use many financial services remotely. An increasing proportion of in-store payments are now digital and contactless, and online purchases (e-commerce) have grown significantly.
FinTech solutions have helped expand and accelerate access to loans, including government-backed loans in response to the COVID-19 pandemic. Ensuring the safe and reliable operation of digital infrastructures has also become more important as the number of people using online financial services has increased and financial sector employees themselves work remotely. If there was any doubt, it is now clear that digital finance can bring many benefits, and Europe's citizens and businesses are ready to receive them. Europe must take full advantage of this in its recovery strategy to help repair the social and economic damage caused by the pandemic. Digital technologies will be essential for relaunching and modernizing the European economy in all sectors. These will enable Europe to advance as a global digital player. At the same time, users of financial services must be protected against the risks arising from the increased use of digital finance.
Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions - "Now is Europe's time: repairing the damage caused by the crisis and preparing the future for the new generation", COM (2020) 456 final, 27.5. 2020.
At the European level in the current financial framework 2021-2027, four priorities are identified for the digital transformation of the EU financial sector, with a direct focus on the phenomenon of financial inclusion, respectively:
 The first priority is to address the fragmentation of the digital single market for financial services, to enable European consumers to access cross-border services and to help European financial firms expand their digital activities;
 The second priority is to ensure an EU regulatory framework that facilitates digital innovation in the interest of consumers and market efficiency;
 The third priority is to create a European financial data space that, based on the European data strategy, promotes data-driven innovation, including improving data access and data sharing in the financial sector;
 The fourth priority is to address the new challenges and risks related to digital transformation.
More competitive and innovative European financial sector, as well as ensuring the integrity of the EU financial system through the digital financial strategy applied at European level


A Digital Single Market for financial services
A regulatory framework facilitating innovation
A DIGITAL FINANCE STRATEGY FOR EUROPE
A European financial data space to promote data-driven innovation
Addressing the risks of digital transformation
THE BENEFITS OF DIGITAL FINANCE
Better financial products for consumers and new ways of channelling funding to EU businesses, in particular SMEs.
Supports Europe's economic recovery strategy and opens up new channels to mobilise funding to support the Green Deal and the New Industrial Strategy for Europe.
Cross-border digital finance will enhance financial market integration in the Banking Union and the Capital Markets Union.
Strengthen Europe's ability to retain and reinforce our open strategic autonomy in financial services.

Source: https://ec.europa.eu/

Chart 1. The digital financial strategy applied at European level

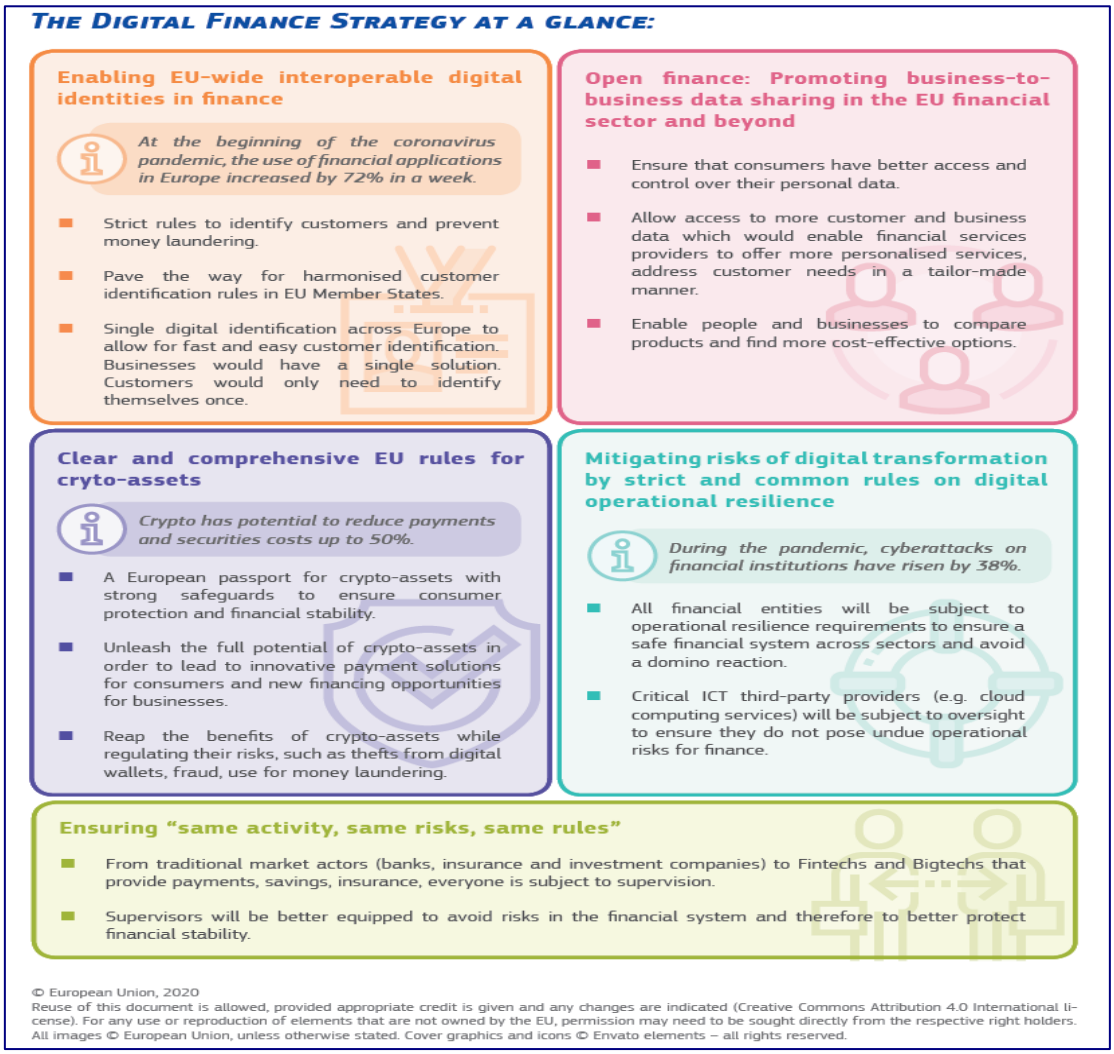

THE DIGITAL FINANCE STRATEGY AT A GLANCE:
Enabling EU-wide interoperable digital identities in finance
At the beginning of the coronavirus pandemic, the use of financial applications in Europe increased by 72% in a week.
Strict rules to identify customers and prevent money laundering.
Pave the way for harmonised customer identification rules in EU Member States.
Single digital identification across Europe to allow for fast and easy customer identification. Businesses would have a single solution. Customers would only need to identify themselves once.
Open finance: Promoting business-to-business data sharing in the EU financial sector and beyond
Ensure that consumers have better access and control over their personal data.
Allow access to more customer and business data which would enable financial services providers to offer more personalised services, address customer needs in a tailor-made manner.
Enable people and businesses to compare products and find more cost-effective options.
Clear and comprehensive EU rules for cryto-assets
Crypto has potential to reduce payments and securities costs up to 50%.
A European passport for crypto-assets with strong safeguards to ensure consumer protection and financial stability.
Unleash the full potential of crypto-assets in order to lead to innovative payment solutions for consumers and new financing opportunities for businesses.
Reap the benefits of crypto-assets while regulating their risks, such as thefts from digital wallets, fraud, use for money laundering.
Mitigating risks of digital transformation by strict and common rules on digital operational resilience
During the pandemic, cyberattacks on financial institutions have risen by 38%.
All financial entities will be subject to operational resilience requirements to ensure a safe financial system across sectors and avoid a domino reaction.
Critical ICT third-party providers (e.g. cloud computing services) will be subject to oversight to ensure they do not pose undue operational risks for finance.
Ensuring "same activity, same risks, same rules"
From traditional market actors (banks, insurance and investment companies) to Fintechs and Bigtechs that provide payments, savings, insurance, everyone is subject to supervision.
Supervisors will be better equipped to avoid risks in the financial system and therefore to better protect financial stability.
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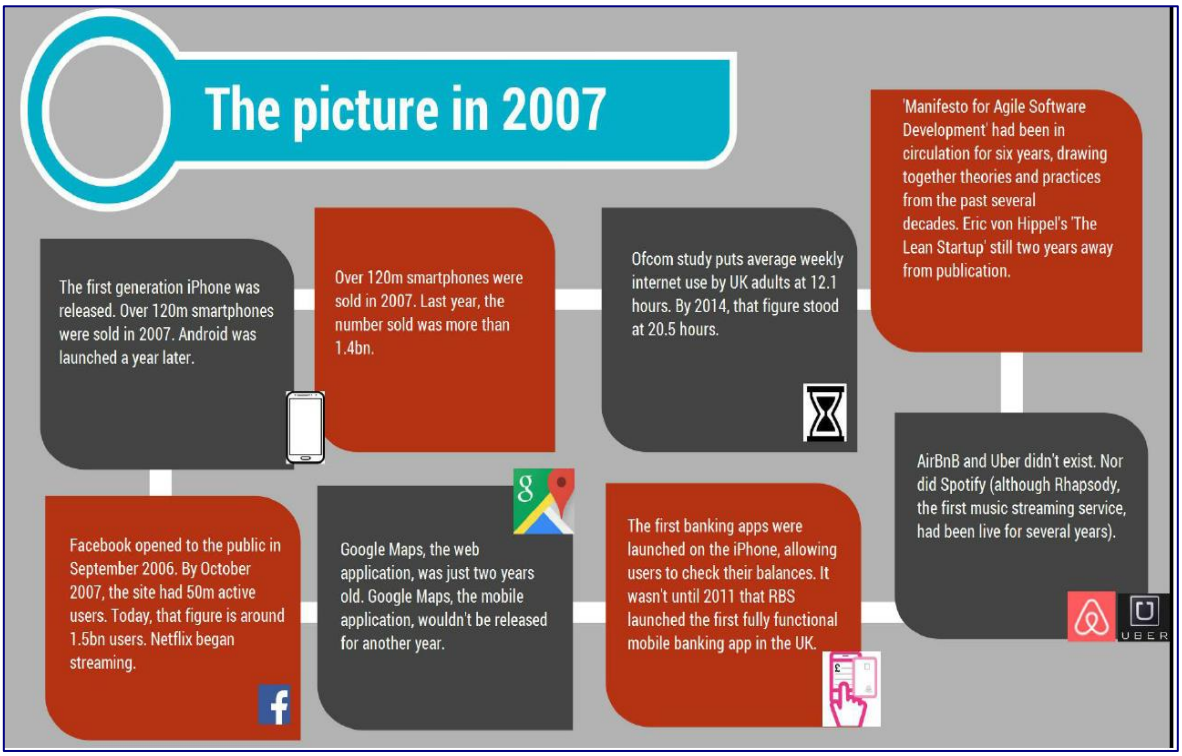
Chart 2.The digital finance strategy at a glance

The rapid progress of FinTech is causing structural changes in the financial sector. In such a rapidly evolving environment, over-prescriptive and hasty regulation risks leading to undesirable outcomes. However, there is also the risk that avoiding updating policy and regulatory frameworks will put EU financial service providers at a disadvantage in an increasingly globalized market. There is also the possibility that, for example in the case of cyber security, the main risks remain unresolved.

The *FinTech Innovations and Action Plan* combines both supportive measures designed to contribute to the introduction of FinTech solutions and proactive measures to encourage and stimulate new solutions and decisively address emerging risks and challenges.

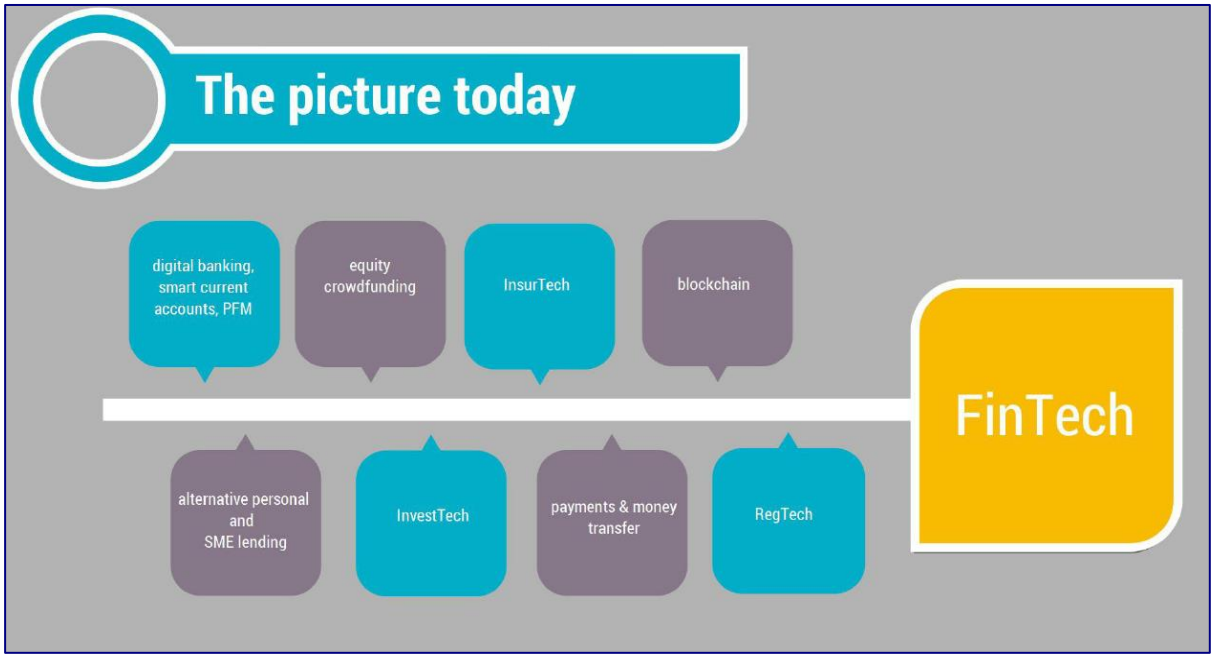
The Commission set out its plans for further work to enable, create an enabling environment and, where possible, encourage innovation in the financial sector, while ensuring at all times that financial stability and a high level of investor and consumer protection are maintained. This is an important pillar of a more comprehensive strategic approach to regulation in the post-crisis environment. The objectives are linked to three aspects: capitalizing on rapid technological advances for the benefit of the EU economy, citizens and the sector, fostering a more competitive and innovative European financial sector, and ensuring the integrity of the EU financial system.


The picture in 2007
The first generation iPhone was released. Over 120m smartphones were sold in 2007. Android was launched a year later.
Over 120m smartphones were sold in 2007. Last year, the number sold was more than 1.4bn.
Ofcom study puts average weekly internet use by UK adults at 12.1 hours. By 2014, that figure stood at 20.5 hours.
'Manifesto for Agile Software Development' had been in circulation for six years, drawing together theories and practices from the past several decades. Eric von Hippel's 'The Lean Startup' still two years away from publication.
Facebook opened to the public in September 2006. By October 2007, the site had 50m active users. Today, that figure is around 1.5bn users. Netflix began streaming.
Google Maps, the web application, was just two years old. Google Maps, the mobile application, wouldn't be released for another year.
The first banking apps were launched on the iPhone, allowing users to check their balances. It wasn't until 2011 that RBS launched the first fully functional mobile banking app in the UK.
AirBnB and Uber didn't exist. Nor did Spotify (although Rhapsody, the first music streaming service, had been live for several years).
UBER

Source: Fintech and financial disruption, 2017, Akinson H., CSFI, Churchen R., PwC

Chart 3. Presentation of FinTech in 2007

The European financial sector is currently more competitive and innovative, as well as ensuring the integrity of the EU financial system through the digital financial strategy applied at the European level and the studies carried out at the international level.



Source: Fintech and financial disruption, 2017, Akinson H., CSFI, Churchen R., PwC

Chart 4. Presentation of FinTech in 2007

Associated with digital financial technologies is also blockchain technology, which in recent years has experienced a dynamic both in the financial sector and in other sectors of activity, which is also reflected in the graph below.

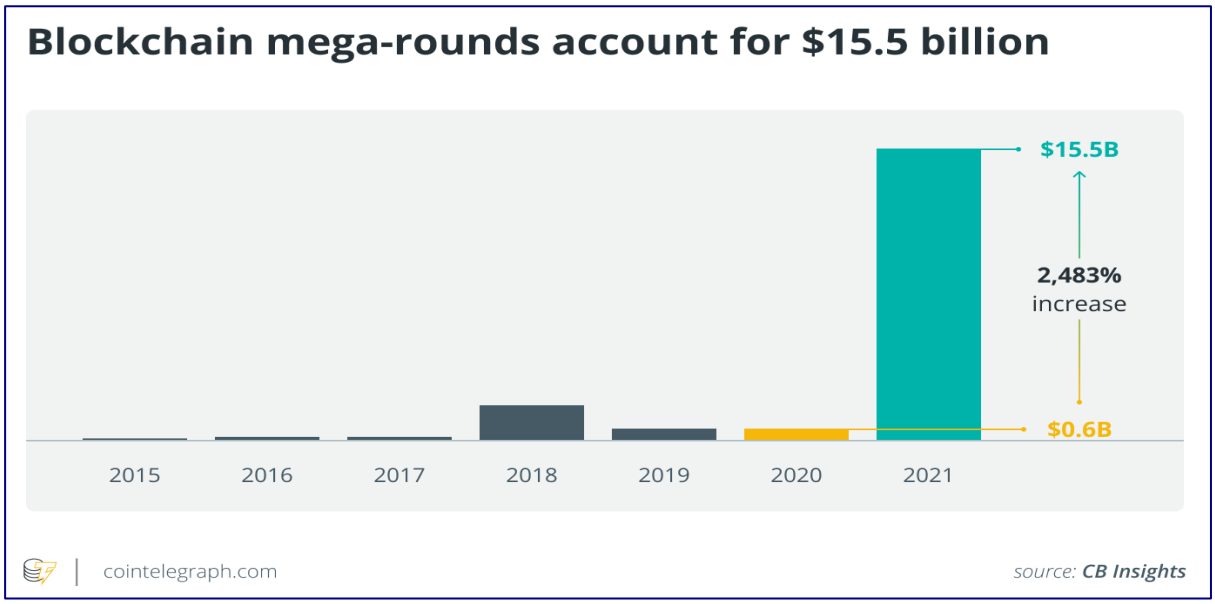


Chart 5. The evolution of blockchain technology in the period 2015-2021

In January of each year, the *Insider Intelligence Group* publishes reports on the evolution of the most important FinTech companies and startups, thus in 2022 it published data on this industry that actively contributes to the process of financial inclusion, namely the FinTech industry, namely:

 The FinTech industry is moving every year. In the first three quarters of 2021, FinTech companies worldwide raised $94.7 billion in funding.

 But as more and more FinTech companies grow in the space, it can be difficult to sift through them and identify the biggest FinTech companies.

 Do you work in the Fintech industry? Gain insight into the latest technological innovations, market trends and your competitors with data-driven research.

The FinTech industry is growing every year, and the market is starting to fill up with financial service providers and early-stage FinTech startups trying to meet customer needs and shape the future of finance.

Fintech companies globally raised $94.7 billion in funding in the first three quarters of 2021. Several innovative financial services and the largest FinTech companies are fueling this growth by attracting investors offering new financial products and services. But as more and more companies get involved in the fintech space, it can be difficult to sift through them and identify the major players. To help you out, we've listed the biggest FinTech startups in six areas below: banking, payments, investment and wealth management, insurance, foreign exchange and foreign exchange, and lending and financing.

Along with digital finance that actively contributes to the inclusion process, the *European Commission has also launched the new green finance strategy starting in 2021*.

Sustainable financing represents an important concern of the European Union recently, having an essential role in fulfilling the political objectives of the European Ecological Pact being interpreted as a type of financing that supports the sustainable development of the economy, while reducing the pressures on the environment and taking into account social and governance aspects.

Sustainable finance aims to improve the financial sector to support sustainable development in the context of the fight against climate change.

This involves the consideration by the entities of the financial sector of the environmental, social and governance factors (ESG factors – Environmental, Social, Governance), thus aiming at the orientation of longer-term investments in sustainable economic activities and projects. There are several legislative initiatives at European level, transposed into national legislation or with direct applicability in Romania, to determine the development of sustainable economies in terms of environmental impact, in accordance with common efforts to counteract climate change.
The action plan of the European Commission on the financing of sustainable development and the development of a renewed strategy on sustainable financing contains 10 initiatives grouped into three chapters:
a. redirection of capital flows towards a more sustainable economy;
b. the inclusion of elements of sustainability in risk management;
c. encouraging transparency and long-term vision.
Financial market participants and financial advisers as well as issuers are required to provide specific information on their approaches to the integration of sustainability risks and the consideration of negative sustainability impacts.
In June 2021, the European Commission adopted a new *Strategy for financing the transition to a sustainable economy*, through which it proposes several actions to achieve this goal, such as: expanding the framework of the EU taxonomy, general framework for the ecological labeling of financial instruments, identifying gaps in protection offered by insurers regarding natural disasters, the inclusion of ESG risks in credit ratings, changes to the Solvency II directive to integrate sustainability risks into the risk management process of insurers, etc. In the context of the new strategy, the European Commission also proposed the establishment of a legal framework for European green bonds through a new regulation (European Green Bond Standards – EUGBS).
The structural change of the economy towards one with superior added value and sustainable from the climate point of view represents a significant challenge for the Romanian economy and for the financial sector, both the opportunities and the costs can be significant in the long term.
In the context of the transition to a green economy, the pace of which is important to achieve as homogeneously as possible on a European level, in order not to cause negative effects that unbalance economies from a structural point of view, the lack of action to combat climate change can have an impact picked up.
Accelerating the transition through green finance
The EIB Group's support for climate action and environmental sustainability can be divided into 12 focus areas, ten of which correspond directly9 to the European Green Deal, as shown in the figure below. Eleven areas are addressed, including fair transition for all, cover both the EU and the external dimension – and are therefore relevant to the EIB's operations globally.

Chart 6. – The basic themes of the European Green Deal

Structuring around these areas of interest helps to ensure full alignment of the EIB Group with the EU, including the objectives and by extension the use of the EU budget. It provides a coherent basis for strengthening dialogue with Member States on investment programs – ranging from medium-term Recovery and Resilience Plans Ensuring a fair transition for all As the *European Climate Bank*, the EIB Group recognizes the importance of not leaving people or places behind along the transition path. This is of particular concern to regions that currently rely on carbon-intensive industries as a major source of jobs and local income, and for these people, businesses, sectors and regions are most affected by the impacts of climate change. This chapter considers the EIB Group's role in supporting a just transition for all. Cohesion policy was one of the original reasons for being of the EIB when it was created in 1958. It continues to be a basic priority, reflected in an annual objective for cohesion loans of 30% in EU and pre-accession countries. The new green ambition does not remove this commitment: rather, support for a just transition and a socially inclusive approach is a means by which the EIB Group can strengthen this commitment to balanced territorial development.

Looking also outside the EU, a just and inclusive transition touches on the wider issue of social development and climate change. Even under a 1.5˚C pathway, some regions of the world are exposed to major climate change risks, exacerbating existing fragility and vulnerabilities. Well targeted investments can contribute to both ecological transition and social development. This chapter therefore also considers possible ways in which the EIB Group can contribute to supporting an inclusive system approach to the low-carbon transition globally and to increase resilience for communities and businesses most affected by change climate – and make sure no one is left behind.

Supporting a just transition in the EU - The transition to a net-zero GHG economy by 2050, with a major reduction in emissions by 2030, will involve a profound social and economic challenge for carbon-intensive regions.

Conclusions

It has been a year and a half since the Commission presented the digital finance package. Progress has been made, particularly with the legislative agenda in digital finance. But the next steps will be much more challenging.

So, what have we achieved so far? First of all, the agreement of the member states and the European Parliament, regarding market infrastructures based on distributed ledger technology. Market players will have a safe space to experience the issuance, trading and settlement of stocks or bonds using blockchain technology. We count on them to use this opportunity. This will be essential to give EU capital markets a much-needed boost to development, but also to help supervisors and the Commission identify areas where rules might need to be adapted and enable long-term development in this area.

The new rules will provide legality, certainty to rapidly encourage responsible innovation in this growth of the asset class, while putting safeguards in place to protect investors against fraud, abuse and theft and preserve market stability. The member states reached a common position and negotiations at the European level.

Thirdly, it is expected the adoption of new rules regarding digital operationality, as well as optimizing the resilience of financial firms. However, as the financial system continues to change, regulators need to look carefully at the European approach.

Using digitization as a supporting tool and supporting green finance as well as the inclusion process, the European Commission has launched the EU Platform for Sustainable Finance and the International Platform for Sustainable Finance.

The EIB Group will be a permanent member of the *EU Platform for Sustainable Finance*, which will take over the work of the European Commission's TEG to continue the work on the climate-specific criteria of the EU taxonomy and develop criteria for the other four environmental objectives and later for social objectives.

The EIB is also actively involved as an observer in the International Platform for Sustainable Finance created in 2019. The International Platform for Sustainable Finance is a forum to strengthen international cooperation and, where appropriate, the coordination of approaches and initiatives for capital markets (such as be green taxonomies, disclosures, standards and labels). The EIB is an official supporter of the Task Force on Climate Financial Disclosures (TCFD). The EIB is now working on implementing the first set of information. The EIB will further assess the applicability of the TCFD disclosure principles to its intermediary business model during 2021 and how to properly integrate this into EIB Group reporting.

Going forward, the EIB Group will further review its disclosure practices to address key sustainability disclosure principles as set out in EU Regulation 2020/852 establishing a framework to facilitate sustainable investment (the Taxonomy Regulation) which entered effective July 2020.

In addition, the European Commission is currently revising the Non-Financial Reporting Directive (Directive 2014/95/EU) which requires companies with more than 500 employees to report on environmental, social and governance issues. In this context, the EIB has been nominated as a member of the project's Working Group on preparatory work for the development of possible non-financial EU reporting standards.

Therefore, even if these two new strategic directions, digital finance and green finance, are at the beginning of the road, it is worth noting how the process of financial, social, economic and environmental inclusion is placed at the center of them, which is why for us what we are involved in the research activity, we are determined to develop our research both in the strategic direction of digital finance and in that of green finance, both at the level of financial innovations and at the level of the impact of the application of the support funding programs of the European Commission.

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THE TRANSFORMING ROLE OF DEVELOPING COUNTRIES IN GLOBAL TRADE

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Abstract:

The article analyzes the increasing demand and the formation of internal value chains in developing countries – changes that explain the shift in the intensity and direction of trade at the global level. The aim of the study is to analyze the new place of developing countries in global trade relations. First, some of the transformations in the positions of the countries of the Global South in the process of multilateral liberalization are considered, then the changing role of emerging economies in the world economy is analyzed, and finally a forecast on the changing global demand and trade patterns is presented.

Keywords: *international trade, global demand and supply patterns, multilateralism, development economics, Global North and Global South*

JEL classification: *F10; F13; F60*

Introduction

In the modern global system of international economic relations, certain changes and trends are observed, determined both by purely economic factors and by many other factors - social, political, security-related, etc. These trends affect both trade and the degree of fragmentation of production specialization and the demand for different types of skills, thereby enabling the extraction of greater profits, but also pose new challenges for trade policy.

The article analyzes one of these global trends – the growing demand and the formation of internal value chains in developing countries – changes that explain the increasing decline in the intensity of trade at the global level. This decline is not a sign that globalization is over, nor does it mean that the world economy is in danger. It reflects the ongoing evolution of the world economy and the relationships within it. Economies become increasingly self-sufficient as they grow – any country with a very large territory and population, as is the case with China, will naturally be less inclined to trade with other countries than a small country. The world is still full of trading opportunities for companies that keep an eye on how the markets are changing.

The purpose of the paper is to analyze the new place of developing countries in global trade relations. First, some of the transformations in the positions of the countries of the Global South in the process of multilateral liberalization are examined, then the changing role of developing economies in the world economy is analyzed, and finally, a forecast of changing global demand patterns and trade is presented. In the conclusion, some summaries and conclusions are drawn.

It is important to note that the study does not consider the major changes that have occurred as a result of the pandemic crisis in 2020, since, on the one hand, there is still insufficient data to determine their impact on international economic relations, and on the other on the other

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hand, they cannot be evaluated from the point of view of long-term structural changes in the world economy, but for now have a rather conjunctural character.

Developing countries and multilateral trade liberalization

From the point of view of the interests of the developed Western world, the WTO has succeeded: “There are no longer any major trade restrictions left to be removed. If in the 1990s the benefits of trade liberalization were huge (hundreds of billions of dollars) and liberalization brought 10% of economic growth in the world, its benefits are important and obvious, but they have already been realized" (Krugman, 2016). However, from the perspective of the billions of poor people in the developing world, the WTO is failing.

From the perspective of development economics, the WTO has been a "miserable failure". The WTO can be defined as successful from the standpoint of highly developed Western economies as well as individual "elites" in the developing world, but success only benefits those who already possess great wealth and power (Yates, 2015, p. 1). This is because the WTO is structured and organized in such a way that it does not actually promote true free trade. In fact, the question of whether the WTO "promotes trade" actually touches too little of the problem. What is important is the impact of its trade policies – trade may grow, but this can (and often from a practical point of view actually does) have a negative impact on developing countries. In the case of the WTO, the "global elites" benefit – the organization's policies protect and support their interests, facilitating the profitable accumulation of capital, while limiting the pressures from the Global South impeding this process. This is manifested above all in attempts to adopt trade policies that force the countries of the Global South to compete with each other and thus prevent them from uniting against Western economic hegemony.

The WTO should be seen not as a radical change, but as a continuation of the General Agreement on Tariffs and Trade (GATT) with a similar objective – to coordinate trade liberalization. The GATT itself was developed after World War II by Western powers with an express, limited purpose that preferentially benefited the US and Europe. Western countries contributed the most to the establishment of GATT, possessing so-called first-mover advantages (Wilkinson, 2009, p. 162) – a term referring to countries that join first and are thus given the opportunity to more easily influence the course and shape of negotiations for a given multilateral agreement. In relation to the joined former colonies, the so-called "grandfather guidance" principle (ibid, p. 163) is applied, i.e., their actions are determined by instructions from their former colonial metropolises. In the early years, very few trade-related advantages were created for the developing world because of the limited influence that the late entrant developing countries were able to exert on the negotiations. This unbalanced system continues to operate today in the form of the WTO, as evidenced by numerous actions and agreements that have a negative effect on the development of trade policies that would benefit the developing world.

In relation to WTO decision-making, there is clearly no equality of power in this regard, as "the trading system is still largely based on force rather than a rules-based system" (Heron, 2006, p 18). Although the WTO formally has a one-member-one-vote system, it has never been used (Kieli, 2005, p. 119) and, as in most international governance institutions, the interests of the powerful dominate. This clearly creates a problem – weaker countries are unable to influence how trade agreements are reached. In cases where developing countries are to be included in negotiations, decision-making is often described as being done under "coercion". Boas and McNeill (2003, p. 44) point to the Doha Round as an example of “overt power politics in which the rich oppress the poor”. Rather than addressing development issues, the Doha conference actually "reinforced the asymmetry of power in the WTO" (Las Das, 2003, p. 16), focusing on issues that benefit developed countries and limiting the "political space" (another term for

sovereignty) of developing countries (Gallagher, 2007, p. 63). Based on the WTO's Doha proposals, with little benefit in return, the ability of these countries to use tariffs, limit liberalization, and extract benefits from the R&D of foreign firms operating within their borders would be reduced, increasing the asymmetry and increases the difficulties of developing a fair-trade policy (ibid, p. 82).

The very process by which negotiations are conducted acts as an obstacle to effective trade promotion in the developing world. WTO negotiations, successive 'rounds', occur as a series of 'repetitive games' in which developing countries are often forced to accept 'new concessions in exchange for corrective action' on previous decisions (Wilkinson, 2009, p. 159). Poorer countries often have less ability and skill in complex trade negotiations, and in this case, they stand to lose much more – their access to the markets of developed countries (Yates, 2015, p. 2). Such problems are compounded by the "single deal" - a negotiating tool where all participants must comply with all decisions taken - and this leads to an ever-growing asymmetry between developing and developed countries - an inequality that is deepening.

Together with other institutional arrangements, this shows that the benefits of the WTO are primarily for developed economies, which ensures the longevity of the organization (Wilkinson, 2009, p. 171). Hence, it can be concluded that the WTO was developed expressly with the unstated objectives of "managing Western trade rivalry" and "containing the South" (Bello, 2000, p. 18). This absolutist focusses on trade liberalization in such a way as to ensure privileged access of developed economies to developing markets does not lead to fair or equitable trade outcomes.

In addition to the fact that the WTO is institutionally structured in favor of strong economies, there is also the problem of the dominance of the theoretical discourse of neoclassical economics, which is committed to trade liberalization. As stated in its declared principles, the WTO maintains a commitment to “opening national markets to international trade” (WTO, 2020). Neoclassical theory finds expression in neoliberal economic policy and is based on the a priori assumption that, by affecting their various competitive advantages, free trade will enable nations to achieve economic growth. However, this "implicit belief in the goodwill of free trade" (Heron, 2003, p. 8) is fundamentally flawed in two main areas that are not taken into account in the functioning of the WTO.

First, the WTO often promotes trade liberalization exclusively for poor, developing countries, while maintaining protectionist policies for rich countries—examples include the Agreement on Agriculture, TRIPs, and the Trade Agreement on Investment Measures (TRIMS). TRIPs are developmentally problematic because it grants "exclusive rights" of use to holders (usually Western firms), which creates the possibility (often realized in practice) of exploitation. Although WTO policies contain provisions that allow intellectual property rights to be revoked in cases of anti-competitive practices or national emergencies, these rules are complex and open to interpretation by Western corporations with significant legal recourse (Kieli , 2004, p. 120). The disconnect between WTO rhetoric and reality means that WTO trade policy is often used to protect well-developed Western sectors, leading to the dependency of poor countries forced to buy foreign products rather than innovate domestically. In this way, the possibility of domestically produced goods being included in a trade policy that promotes development and industrialization is limited (Yates, 2015, p. 3).

Second, there is abundant empirical evidence that trade liberalization does not lead to sustainable growth and that developing countries that adopt a protectionist import substitution strategy actually progress faster than countries that liberalize their economies, for example South Korea (Lie, 1992, p. 296) and China (UNCTAD, 1998, p. 183). Incipient industries are stimulated and protectionist tariffs are introduced to prevent foreign competition, and only when these economies have achieved a good enough level in the relevant sector do they begin to advocate free trade vis-à-vis other nations. Such a strategy – to use a protectionist trade policy

to develop and then create obstacles for other countries to do the same, forcing them to liberalize – has also been described as “throw away the ladder” (Chang, 2003, p. 21). This is the unofficial strategy of the WTO and other international organizations such as the World Bank and the International Monetary Fund and has been in place for many decades. It hinders independent attempts by developing countries and is further reinforced by the "productivity gap" between rich and poor countries. This gap is roughly fifteen times larger than in the 19th century (ibid, p. 30), and has continued to grow since the acceleration of trade liberalization with the help of international organizations advocating the implementation of neoliberal policies since the 1980s years of the twentieth century. Such divergence provides even stronger arguments in defense of protectionism for developing countries.

Another problem is the size of the economies – within the Global South, large economies (especially China and India) benefit from liberalization. The quota system forces companies based in China and India, which are subject to strict quotas, to outsource their production to countries such as Bangladesh, which are not subject to such strict quotas. Such liberalization means that Bangladesh, as well as many African countries, must compete directly with China and India (Heron, 2006, p. 11-12), thus intensifying South-South competition. This leads to division and stratification among the poor countries, which in different circumstances could form a united block against the economic hegemony of the developed Western economies.

The complex decision-making pattern, diverging interests of developing and developed countries and imbalances in the terms of participation and distribution of benefits arising from multilateral trade liberalization led to a dead end in the process of multilateral global liberalization. A vivid illustration of this standstill is the Doha Round negotiations that started in 2001 and are still unfinished. The international trade framework is being called into question, and uncertainty in trade relations is contributing to global economic uncertainty and is dampening economic growth. (Bobeva, 2020). All this contributes to the development and deepening of the trends discussed in the following parts of the study – the growing role of developing economies (especially large ones) in the world economy and politics, the increased division between the Global North and the Global South, the reorientation of trade flows and sources of growth.

The changing role of developing economies in the world economy

The lack of progress in the WTO creates a more "defensive" attitude towards national industrial or commercial interests. Protectionist measures are significantly more than the liberalizing ones, and since 2017 their number has grown significantly. With the growth of global value chains (GVCs), a number of countries are adding value in production along the chain before receiving goods for final consumption. Thus, many exported goods combine internal and external value added by importing intermediate goods. In 2010, the share of external added value in total exports reached 31% and since then has remained at approximately the same level (Damen and Igler, 2019). The rise of global supply chains over the past three decades has been associated with increased economic efficiency (Amiti and Konings, 2007, World Bank, 2020), but also with more risks and vulnerability.

As a result of the changes of recent decades, 70% of international trade involves services, raw materials, parts and components. This is the result of the functioning of global value chains, which extend their production to different countries and direct both investment flows and their production activities to areas with a supply of raw materials and labor resources (Panushev, 2020). In addition, with the growing importance of multinational corporations and global production chains, trade has become an increasingly contested issue – the public is increasingly questioning major bilateral trade agreements such as TTIP and CETA. For decades, the EU has been criticized for the lack of coherence between its individual policies and for their contradictory effects on developing countries (Byanov and Byanova, 2018).

The place of developing countries in global economy is also changing. More than half of global merchandise trade involves at least one developing country. Trade between developing economies (South-South trade) is also growing, from 7% of world trade in 2000 to 19% in 2018. However, not all developing countries are at the same level. Between 1990 and 2018, Asia doubled its share of world trade from 15 to 35%, with more than half of Asian trade being intra-continental (World Bank, 2020). With the conclusion of the African Free Trade Area Agreement, Africa is also attempting to create a serious incentive for intra -continental trade.

China and other emerging economies are becoming drivers of global demand growth, consuming more than they produce. China's share alone grew from 4% of global consumption in 2007 to 10% a decade later. Second, emerging economies are reaching a new level of industrial maturity. They build internal supply chains and export less of the intermediate inputs they need to sustain their production. China is making rapid progress in this regard as it modernizes numerous industries and increases its capacity in design, engineering and high-tech manufacturing. Finally, new technologies are transforming trade patterns by changing the economics of production, creating new goods, and reducing transaction costs.

Globally, in the last quarter of a century, more than one billion people have been lifted out of poverty. As their incomes rise, many of them pass the point where they can begin to make substantial purchases and thus join the "consumer class." Not only are millions of households able to spend more for the first time, but even more are moving into higher income segments, past the point where consumption sharply accelerates. A recent study estimates that the global middle class will grow to 3.2 billion people by 2016, and claims that the tipping point is almost reached where middle-class or wealthy households make up the majority of the population for the first time of the world (Kharas, 2017).

Today, the global demand map, once heavily dominated by advanced economies, is being redrawn, value chains are being reconfigured, and companies are deciding how to compete in the many large consumer markets scattered around the world. According to current projections, by 2050 developing markets will consume almost two-thirds of the world's manufactured goods, with the largest share being in automobiles, construction products and machinery. By 2030, developing countries are expected to account for more than half of all global consumption (Lund et al, 2019), continuing to expand their participation in global flows of goods, services, finance, people and data.

Emerging economies are projected to be the fastest growing in terms of demand in the coming years. By 2030, total global consumption is expected to reach USD 106 trillion, more than double the 2017 level, with 60% of this increase coming from the developing world (Mancini et al., 2017).

Despite the slowdown in growth, China is developing a huge middle class that is becoming a driver of global demand. China's working population is a key consumer demographic globally – current projections suggest that this stratum will account for 12 cents of every $1 in global urban consumption by 2030 (McKinsey Global Institute, 2016). The "post-90s" generation, which grew up with wealth unimaginable to China before the turn of the twentieth century, influenced by and having constant access to Western culture and new technologies, is likely to form more than 20% of the country's total consumption growth in 2030 (McKinsey & Company, 2017).

For about 30 years, China has taken the place of the second world economy, the second foreign investor in the world, the first exporter of goods on international markets and the country with the most significant foreign exchange reserve (Hristova-Balkanska, 2020), and the exit of Chinese companies to the global market has been regulated with specific guidelines and policies since 2003-2004 (Peneva, T., 2020).

Having reached the point where it has more millionaires than any other country in the world, China now accounts for roughly a third of the global luxury goods market, with annual spending of around USD 7.4 billion, and by 2025 it could take 44% of the total global market for such

goods. In 2016, luxury purchases were made by some 7.6 million Chinese households – more than the total number of households in all of Malaysia or the Netherlands. On average, these households spend twice as much on luxury goods as French or Italian households (McKinsey Global Institute, 2017).

Consumers in China are making the country the world's largest online retail market. The best illustration of this is the explosive growth of Singles Day, a one-day e-commerce marathon that reached 30 billion USD in sales in 2018 and nearly 60 billion in 2020, far surpassing those of Black Friday and Cyber Monday in United States taken together. The country's consumption is also remarkable when viewed through the lens of specific product categories. In 2009, China became the world's largest car market, with consumption continuing to grow at double-digit rates every year. In 2016, 40% more cars were sold there than in all of Europe (although vehicle sales have since declined) (Wang et al ., 2017). The Chinese smartphone market is also the largest in the world with 444 million USD turnover in 2017 (Nakamura and Onishi, 2018). The rise of local smartphone brands such as " Vivo " and " Oppo ", sold mainly in the domestic market, is a testament to the growth in consumption in the country. Today, China accounts for 40% of the world's consumption of textiles and clothing, 28% in automotive and 38% in computers and electronics (Lund et al., 2019).

As a result of increased demand, more and more of what is made in China is now sold domestically. Across industrial value chains, China exported 17% of the gross output it produced in 2007. By 2017, exports had fallen to 9% of output, a share roughly equal to that of the US but far smaller, than in Germany (34%), South Korea (28%) or Japan (14%).

Consumption is also growing faster in the rest of the developing world as more countries urbanize, industrialize and integrate into global value chains. By 2030, developing countries (excluding China) are expected to account for 35% of global consumption. Demand is rising in almost all developing countries, with growth particularly fast in India, Indonesia, Thailand, Malaysia and the Philippines.

The tendency for developing countries to consume more than they produce is most evident in labor-intensive and highly innovative global value chains. Between 2007 and 2017, the share of their output that was exported fell by half (from 29 to 15%) in China and from 33 to 27% in other developing economies (excluding European). Developing countries in Europe are the only region that follows the opposite trend – they (including Bulgaria) are important suppliers for the countries of the western part of the continent.

Declining trade intensity in industries such as clothing reflects rising incomes and demand in countries that have absorbed most of the world's labor-intensive manufacturing. In 2002, for example, 35% of India's consumer goods exports were apparel. In 2017, however, that share fell to 17%—not because India is losing its share of the global market, but because Indian apparel manufacturers, like their counterparts in China, no longer have to ship as much of their products around the world to looking for buyers. They can sell more clothes to local consumers. Average spending on clothing and footwear in India rose from USD 40 per person in 2007 to USD 64 in 2017, with the market also expanding due to population growth (Lund et al., 2019).

As global demand shifts to the developing world, new opportunities are opening up for manufacturers in advanced economies. While in 1995 only 3% of exports from advanced economies went to China, by 2017 this share had grown to 12% (from USD 130 billion to USD 1.2 trillion). Over the same period, the share of advanced economies' exports to other developing countries rose from 20 to 29% (in absolute terms from USD 860 billion to USD 3 trillion). This trend is observed in both final consumption goods and intermediate goods.

In the automotive industry, for example, 38% of Japan, Germany and the US' auto parts and car exports go to China and the rest of the developing world. In knowledge-related services, including information technology, financial and business services, 45% of all exports from

developed economies are destined for developing countries. China's imports of final consumption goods now match those of Germany and exceed those of Japan, the United Kingdom, France and Russia.

Over the past decade, rising exports to developing countries have helped advanced economies cushion the impact of the global financial crisis's slump in domestic demand, which continues to this day. In industries such as furniture and apparel, France, Germany and the US realize that while demand from their advanced economic trading partners has been declining over the 2007-2017 period, rising exports to the developing world are blunting this trend.

The Asia-Pacific region is already a top strategic priority for many Western brands. Recently, for example, the Danish brewing company Carlsberg recorded no revenue growth in Western Europe, but double-digit growth in Asian markets (mostly India) (Carlsberg Group, 2018). The cosmetics giant Estée Lauder reported a 2% increase in sales in the Americas and a significantly higher 11% increase in emerging markets (due in part to teaming up with local social media influencers and influencers such as Chinese actress Yang Mi) (Estee Lauder, 2017) In the first half of 2018, Hermès reported that the Asia-Pacific region excluding Japan brought in 38% of the company's revenue, a share that exceeded its revenue across Europe (Hermès, 2018).

After several decades of participation in global value chains, mainly as producers, today developing economies are also becoming important consumers. This creates export opportunities not only for developed countries – developing countries are increasingly trading with each other as well.

In many respects, however, China's trade policy has come under criticism. According to WTO data, China's average tariffs on imported goods are double the EU's average tariff rates and three times the US's, without changing significantly over the past decade (WTO, ITS and UNCTAD, 2018) . Other contentious issues are the limited access of foreign companies to some Chinese markets, subsidies for key domestic industries and restrictions on foreign data flows.

The riskiest for foreign companies are the transfer of technology and the protection and enforcement of intellectual property rights - these are also the main arguments of the US in the ongoing trade war with China. To be allowed to enter some industries, foreign firms need joint ventures with Chinese companies. Although this is an effective strategy for rapidly building new industries and capabilities, joint ventures can become mechanisms to facilitate the transfer of technology from foreign firms to their local partners through both direct and indirect channels. China is gradually easing restrictions on foreign investment in sectors such as finance, energy, automotive and ship and aircraft manufacturing. (Lee et al Chen, 2018), but market access remains a point of contention in relations with many of the country's trading partners.

Today, developing economies account for more than 40% of global merchandise trade and increasingly trade with each other. Now this so-called South-South trade amounts to 3.6 trillion USD and represents almost half of all exports from developing countries (for comparison in 2007 it amounted to 39%).

In many industries, companies see an advantage in locating production close to their customers and in building networks of suppliers located in close proximity to each other to improve coordination. Production networks expand in developing countries as domestic industries become more vertically integrated and multinational companies begin to build foreign affiliates to serve these rapidly growing markets. This is observed in many countries, including China, India and Indonesia.

The trend towards incorporating more and more domestic production into more segments of different industrial value chains is most pronounced in China, but also exists in other developing

economies. The clearest illustration is the Textiles and Apparel industry, where the increasing focus on speed and time to market requires close coordination between suppliers at different stages of the value chain. In the developing world (excluding China), the share of traded intermediates relative to total industry output is shrinking, from 18% at its peak in 2002 to 13% in 2017 (Lund et al., 2019). Instead of fragmenting production across multiple distant countries, production networks span multiple stages and are consolidated in individual countries such as Vietnam, Bangladesh, Malaysia, India and Indonesia. Even Ethiopia, a newer player in the textile industry, is beginning to expand its own cotton production to serve its apparel manufacturers.

Other developing economies are developing wider food and beverage supply chains. For example, in Senegal, millet was initially grown and used by individual households for their own consumption, and until the beginning of the 21st century, only millet flour was processed. The country now aims to refine and expand processing to be able to offer other commercial products, such as ready-to-eat millet meals (Alliance for a Green Revolution in Africa, 2018).

The expansion of the value chain into new segments is progressing differently in different parts of the developing world. In developing Asia (excluding China), strong economic growth is creating stable consumer markets supporting more independent industries focused on domestic consumption. The region relies less on imported intermediate inputs than other developing countries (9.5 and 18.7% of manufactured goods in 2017, respectively). In the "global innovation" category (automotive, chemicals, machinery, computers and electronics) during the period 2007 - 2017, domestic intermediate production grew by 6% per year, and the share of traded intermediate inputs into these products decreased by about 5 percentage points. In global value chains offering knowledge-related services, the region reported similar 5-year output growth, while the share of traded intermediate inputs supporting this output shrank by 11 percentage points over the decade. Many industries in these countries are becoming less dependent on foreign suppliers for certain raw materials.

At the same time, in Europe, industries in less developed countries are becoming more deeply integrated into the supply chains of larger developed and nearby economies. In the Czech Republic, Slovakia, Romania, Poland and Bulgaria, for example, many companies are joining the production networks of Western European car manufacturers (especially German ones). Between 2007 and 2017, output in global innovation industries in the region rose by 2% per year, and the share of traded intermediates increased by two percentage points. This trend applies more broadly to other types of value chains.

In industries producing global innovations, multinational companies sometimes create momentum that helps developing countries move from one stage of production (usually simpler) to others, as companies seek to keep more phases of the respective production together (on one place). For example, in India's automotive industry, imported intermediate inputs declined from 14% of gross output in 2007 to 10.1% in 2017, as the presence of multinational automakers spurred the proliferation of more local specialty suppliers. In 2017, Ford exported 180,000 cars from India, and Hyundai another 153,000. Like China, India produces and consumes more than it produces, reducing the intensity of both final and intermediate trade goods.

Increasing industrial maturity in many developing economies, combined with ever-increasing demand, is changing global trade patterns. These changes are likely to become more pronounced in the coming years. It is in this connection in the next part, based on a prognostic model developed for the OECD in Johansson and Olaberría, 2014, summarized their results regarding long-term trade development.

How will the world economy develop in the future?

Over the next 40 years, world GDP is expected to grow by an average of about 3% per year, with rates of decline in many countries. By 2030, world growth will be supported by the increasing participation of China and India with high, albeit declining, growth. After 2030, rapid development in Africa is expected to accelerate global growth. Trends in OECD countries are for GDP growth to be around 2% per year until 2060. Developing economies will continue to outpace the OECD on this indicator, but in the near future the gap will narrow as incomes in developing countries reach levels in OECD. As a result, over the next 40 years, there will be changes in the share of individual countries and regions in world GDP. Faster growth rates in developing countries suggest that by 2060 the combined GDP of non-OECD economies will account for around 60% of global GDP. up from around 40% in 2012.

Growth in trade (gross exports of goods and services) is expected to continue to outpace GDP growth over the next 40 years, with world trade increasing by about 3.5% per year (compared to 6.9% in the period 1990- 2007). The elasticity of trade relative to GDP is projected to be weaker than in the period before the global financial crisis. The lower elasticity partly reflects the fact that in the future the countries contributing to world growth will rely less on export -led growth than in recent years. This in part suggests that the intensity of fragmentation of global value chains will slow down, as there are physical limits to the possibilities of fragmenting production and different tasks (Fontagné and Fouré, 2013).

From the point of view of geographical distribution, there will also be major transformations in trade patterns caused by the uneven development of incomes around the world, as well as by changes in the composition of the consumer basket and in relative productivity. In the coming decades, China and India are projected to gain market shares in world trade, although after 2030 the high rate at which China's trade share is rising will decline due to a slowdown in GDP growth. Similarly, Africa, Indonesia and other Asian economies are expected to increase their trade shares significantly, especially after 2030, registering rapid growth resulting in an increase in the size of economies combined with low production costs. This growth in the trade shares of developing economies will mostly be at the expense of weaker trade performance in the Eurozone – it is assumed that by 2060 its share in exports will decrease to approximately 12%. At the same time, due to relatively more favorable growth forecasts compared to the Eurozone, the decline in the share of some OECD economies (e.g., USA and Canada) is expected to be milder.

The changing geographic distribution of trade is also reflected in changes in the relative importance of different groups of trading partners. About half of total bilateral trade now takes place within the OECD, but by 2060, bilateral trade between its members is projected to almost halve. On the other hand, trades between non-OECD economies will more than double, reaching approximately one-third of world trade. During the forecast period, trade between Asian countries will grow from about 6 to 16%. At the same time, products from countries external to the organization will increasingly be imported into the OECD, while the share of the latter in world imports will remain more or less unchanged. Ultimately, it is predicted that over the next 40 years, the geographic center of trade will shift from developed to developing economies.

In the coming decades, the relative importance of different countries and regions in specific markets will also change significantly. This is mainly due to differences in growth, changes in relative productivity and production costs, and the shift of consumption in developing economies to services. In particular, expectations are that China, India, other Asian economies and Africa will become dominant players in manufacturing, while most OECD countries will lose ground. For example, Japan, South Korea and the US will lose their comparative advantage in electronics to China and other Asian countries, which by 2060 are likely to account for 70% of global electronics exports.

The share of developing economies (e.g., China, India and African countries) in the world market will rise significantly even in trade in services. The reason is that these countries will move towards more innovative activities because, combined with the larger size of their economies, they also become richer. Services trade shares of China and India will increase mostly at the expense of the Eurozone, the US, Japan and the UK. One explanation for this is that some service sectors are generally characterized by low levels of productivity. Therefore, for these sectors, access to cheap labor is relatively important, and although labor costs in developing economies are rising, they are still lower than in most developed economies.

Despite the reduction of tariff and non-tariff barriers to trade in recent decades, especially for industrial products, there are still significant obstacles at the global level. Regulatory barriers to trade in services, agricultural subsidies and transaction costs for certain goods remain high. Removing trade barriers can lead to growth in GDP and welfare, but at the same time has side effects on income distribution. Wage inequality within countries is likely to widen, even if the average income gap between countries is shrinking.

Trade liberalization can occur at the global or regional level. As noted, multilateral negotiations between a large number of countries are inherently difficult, while regional trade agreements between a limited group of relatively similar countries enable the negotiation of rules and commitments that go beyond the capabilities of a broader forum. However, regional integration may cause trade discrimination and welfare losses in some countries. To the extent that it generates a diversion of production from efficient non- participating producers to inefficient but participating producers, it may lead to efficiency losses. In some cases, regional integration also promotes regionalism, potentially hindering trade liberalization at the global level.

Conclusions

In the modern global system of international economic relations, certain changes and trends are observed, determined both by purely economic factors and by many other factors – social, political, security-related, etc. In some cases, these trends are multi-directional or interrelated; in others they have very serious economic effects.

The complex decision-making pattern, the divergent interests of developing and developed countries, and the imbalances in terms of participation and the distribution of benefits resulting from multilateral trade liberalization led to a standstill in the WTO.

Trade itself is also changing. The lack of progress in the WTO creates a more "defensive" attitude towards national industrial or commercial interests. The protectionist measures are more than the liberalizing ones, and since 2017 their number has grown significantly.

With the emergence of global value chains, a number of countries add value in production along the chain before receiving goods for final consumption. Thus, many exported goods combine internal and external value added by importing intermediate goods. The place of developing countries in the world economy is also changing. More than half of global merchandise trade involves at least one developing country.

It is the group of developing economies that are beginning to become significant regional and even global market players that pose the greatest challenge to the global trading system. Once freed from their dependence on richer (mostly Western) countries, they can challenge their economic dominance while still benefiting to some extent from their status as developing countries. From such a perspective, the logical connection between the failure of the WTO, the rise of developing economies and the debate about whether the world trading system in its current form is fit for the future is more clearly visible.

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ARE THERE ANY ASYMMETRIC RESPONSES OF OIL PRICE SHOCKS TO GDP GROWTH? A REVIEW OF LITERATURE

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Simona Andreea APOSTU[63]

Laeeq Razzak JANJUA[64]

Abstract:

This study focuses on the well-established fact about the relationship between volatility of oil prices and economic growth in sample oil exporting and importing countries. A systematic literature review is used to explore the related scientific studies and the collected metadata has been analyzed systematically to disclose the asymmetric responses of oil price shocks to GDP growth. It is revealed that the impact of oil price shocks on growth varies from short to long-run, from one country to another depending on economic characters. Sometimes found symmetric but often asymmetric responses of oil price shocks to GDP growth has been observed by scientific researchers in both oil exporting and importing countries. Therefore, the ambiguity of the relationship demands international oil price stabilization polices.

Keywords: *Oil Price Shock, Economic Growth, Asymmetric, and Symmetric Responses*

JEL classification: *E31, 047, N1*

Introduction

Macroeconomic fluctuation is a cause of oil price volatility (Brinin et al. 2016) over the world and the volatility also affects the stabilization policies of both oil exporting and importing economies (Saddiqui et al. 2018; Alekhina and Yoshino, 2018). There are evidences that some economics are benefited while others are lost by the oil price shock (Peersman and Robays, 2012; Taghizadeh-Hesary et al. 2016). For instance, depending on the country's position whether it is an oil-exporter or an oil-importer, the relationship between oil price and market stock varies significantly (Aydoğan et al. 2017). Although increase in oil price has positive impact on oil exporting countries and negative impact on oil importing countries, the volatility of price level causes uncertainty in planning of resource allocation for welfare enhancement in both types of countries (Rentschler, 2013). It is observed noticeable impact of oil price volatility on the people's welfare over the world (Mgbame et al. 2015).

The real impact of oil price changes differs from oil-exporter to oil-importer countries. Oil-exporting countries usually have more fund available for development budget as revenue increases by oil price rise but in case of price fall, they face the trap of budget shortage to their

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continuous expenditures (Abdelsalam, 2020). On the contrary, in case of oil-importing countries, an increase in oil price has negative impact on economic growth whereas a decrease in oil price has a reverse impact (Darby, 1982; Hamilton, 1996; Rafiq *et al*., 2009). However, as the oil exporting countries are failed to launch development project, the macroeconomic challenges are greater for them than oil-importing countries (Abderrezak, 2005). According to Donayre and Wilmot (2016), asymmetric responses of oil price shock are more visible in recessions but less visible in expansions. The asymmetric response of oil price shocks and economic growth is checked by studies in different time frame and context such as Mork (1989), Mory (1993), Mork et al. (1994), Hooker (1996a), Narayan and Narayan (2007), Gbatu et al. (2017a), Gbatu et al. (2017b), Aliyu (2011), Ayadi (2005), Balcilar et al. (2017) and they all conforms the asymmetries. But most of the studies are based on time series (Balke et al., 2010; Lardic and Mignon, 2008; Raheem, 2017) whereas panel studies are scant (Akinsola and Odhiambo, 2020). As the world is facing receission due to Covid-19 and recent war between Russia and Ukrane, it is important to understand the generic asymmetry between oil price shocks and economic growth. The following chat shows the recent trend of monthly oil price in major oil exporting counties.

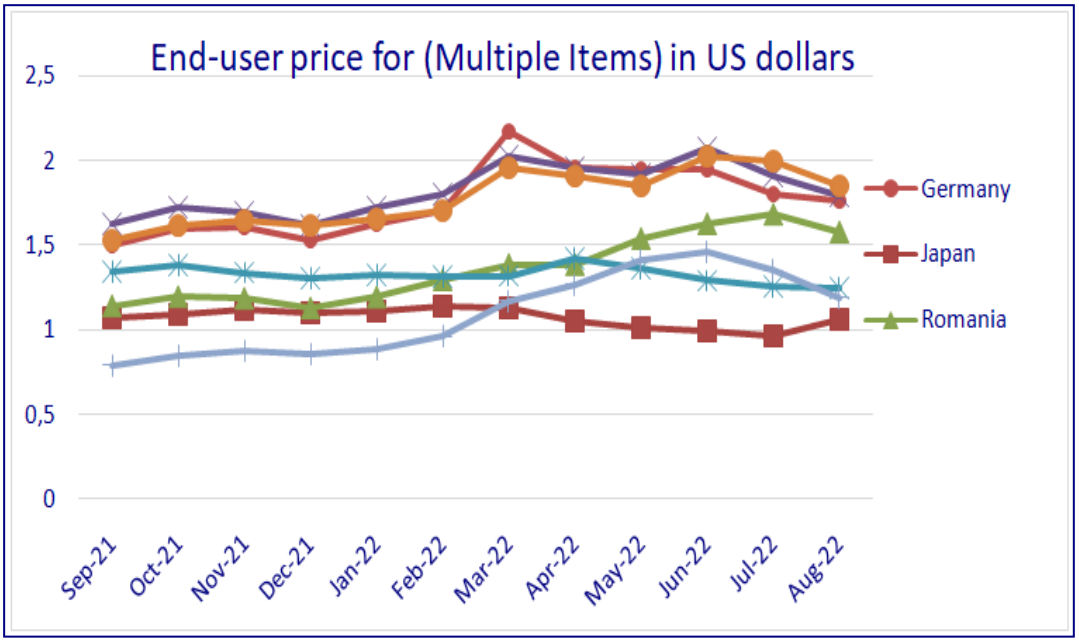

Figure 1- IEA Energy Prices - Monthly Oil Prices Excerpt

Therefore, the ambiguity of modeling the asymmetric effects of oil price shocks to economic growth can be a great policy issue for the energy transition towards alternative mechanism. To understand the derived dynamics in the existing scholarly, the study investigates whether there are asymmetric responses of oil price shocks to economic growth in both oil exporting and oil importing countries based on the existing literature review approach.

Methods and Materials

The study applies literature review approach by starting with the first step of settling the research questions. In order to building a meta-analytic database, an SPSS data file is constructed in the second step by literature search approach following Abbass et al. (2022) where a clear selection criterion and clear list of methods for searching the literature are maintained. The search criteria are to follow the underline keywords regarding the answers of

the study questions whereas the Scopus, web of science, Econ-papers, Google scholar etc. databases are searched during the period of 17 years from 2005 to 2022. The analysis framework is graphed in the following flowchart.

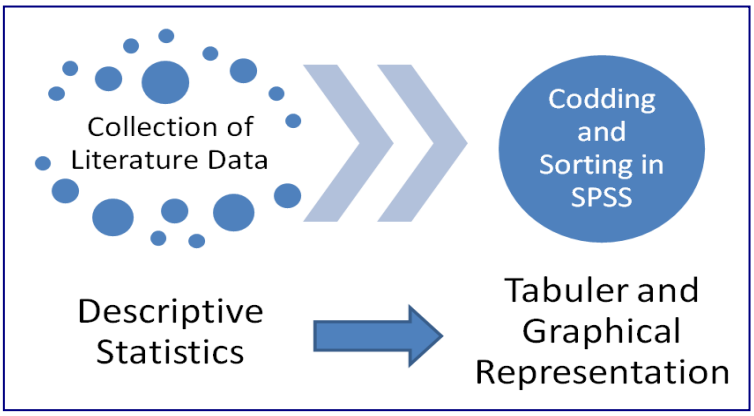

Figure 2- Analysis Framework

Results and Discussion

In order to disclose the scientific evidences of the asymmetric responses of oil price shocks on the economic growth of oil-exporter and oil-importer economics, the researchers extensively have reviewed 28 recent scientific studies from 2000 to 2022. The sample studies with the respective area and year are as give bellow.

Table 1.

The Scientific Studies on the Asymmetric Responses of Oil Price Shocks to Economic Growth

Sl.	Author/s	Year	Sample Area
1	Ahmad et al.	2022	South Asian countries
2	Rodríguez-Benavides et al.	2022	Mexico
3	Ahmadi, Manera	2021	oil-exporter economies
4	Sarmah, Bal	2021	India
5	Bünyamin et al.	2021	South Africa
6	Abdelsalam	2020	MENA countries -oil exporting and importing
7	Bala, Chin	2020	Malaysia
8	Akinsola, Odhiambo	2020	oil-importing sub-Saharan African (SSA) countries
9	Gbatu et al.	2017b	Liberia
10	Gbatu et al.	2017a	West African Countries
11	Sadeghi	2017	oil exporting countries
12	Bergmann	2017	12 oil exporting and importing-US, UK, Japan etc.
13	Rotimi, Ngalawa	2017	Africa's net oil exporting economies
14	Donayre, Wilmot	2016	Canadian Economy
15	Rahma et al.	2016	Sudan economy
16	Gadea et al.	2016	US economy
17	Aliyu	2011	Nigeria
18	Rafiq and Salim	2011	Asian Countries
19	Berument et al.	2010	MENA countries-oil exporter and importer
20	Ersoy	2010	US economy
21	Du and Wei	2010	China
22	Jiménez-Rodríguez	2009	US economy

23	González, Nabiyev	2009	U.S.A and Sweden
24	Rafiq et al.	2009	Thailand
25	Jiménez-Rodríguez, Sánchez	2005	OECD countries
26	Guo and Kliesen	2005	US economy
27	Huang et al.	2005	US, Canada, and Japan
28	Kdoroodian, RoyBoyd	2003	US economy

Source- Authors' Own Research

The diverse types of methodologies are used to find out the exact relationship between oil price shocks and economic growth considering other theoretical variables. The summary of the applied methods to check the asymmetries is given in the following pie chart. The following chart presents that authors' choice dominates VAR-Vector Autoregression and SVAR-Structural Vector Autoregression approaches in designing their methodologies over the years.

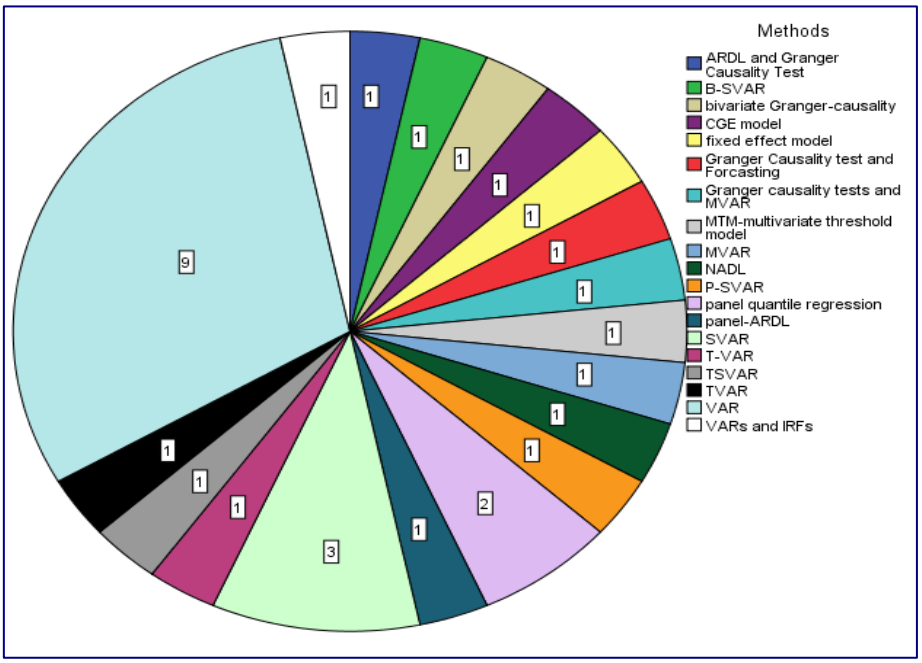

Figure 3- Types of Methodologies

According to the number of conducted study results, the study finds that earlier studies dominantly found that there are asymmetric responses of oil price shocks to economic growth according to diverse methodologies and context. Moreover, some studies found symmetric, linear, non-linear and unidirectional causal relationship as well (see figure 4).

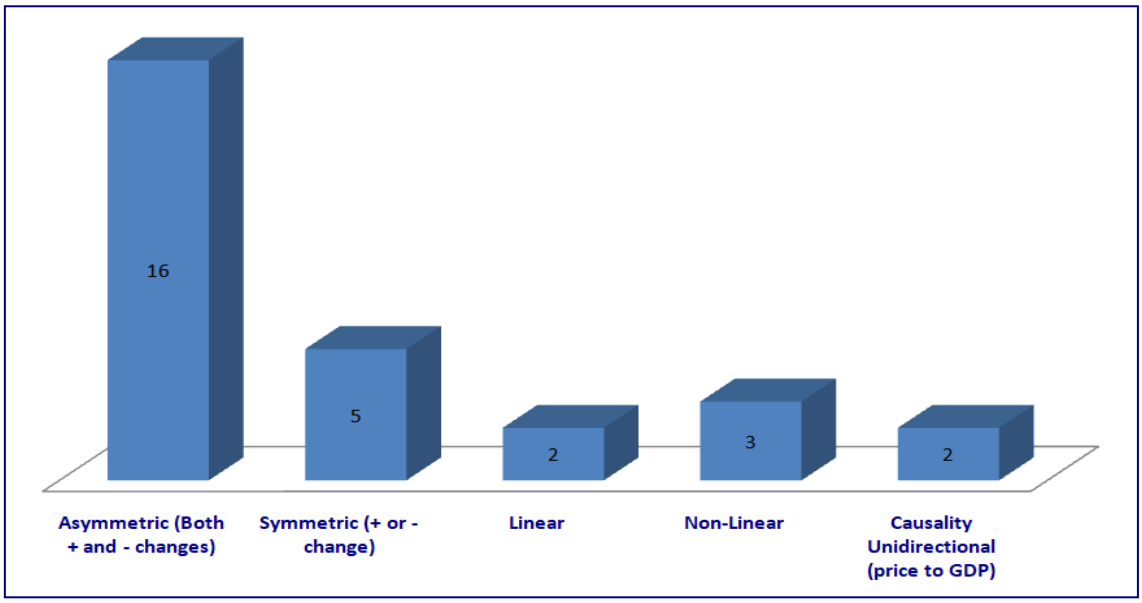

Figure 4- Types of responses of oil price shocks to economic growth (No. of Study Results)

The theoretical and empirical studies on the asymmetric impacts of oil price shocks on economic growth differ from country characteristics, methodologies and over the periods of analysis. It is widely believed that oil price rise has positive impact on the economic growth of oil exporting countries but negative on the economic growth of oil importing countries. The impact differs in opposite directions in case of oil price decrease. However, the economies of oil rich countries have significantly affected by the oil price volatility while oil poor countries are less affected. The following table 2 shows that the effect of oil price change varies significantly by the types of oil trading characters of the sample countries.

Table 2.

Impact of Oil Prices on the Economic Growth by the Types of Oil Trader

		Impact											Total
		AS	L-PO	N/A	NE	NL	NO	NO, AS	NU	PO-L, NE-NL	PO-U	PO-U_D	
Type of Oil Trader	Exporter	5	0	0	0	0	0	0	0	0	3	1	9
	Exporter/Importer	5	0	1	1	0	0	0	0	1	0	0	8
	Importer	6	1	0	0	1	1	1	1	0	0	0	11
Total		16	1	1	1	1	1	1	1	1	3	1	28

Note: AS-Asymmetric, L-PO-Linear and Positive, N/A-Not Applicable, NE-Negative, NL-Non-Linear, NU-Neutral, NE-NL-Negative and Non-Linear, PO-U-Positive but Unidirectional to Increase and PO-U-D- Positive, Unidirectional but Decrease RR

Source- Authors' Own Research

Conclusion

In this paper, the study aim is to present the scientific evidences of the asymmetric responses of oil price shocks to economic growth. The study is designed to review the recent studies during the period of 2000 to 2022, considering the methodologies and context of sample areas. The analysis framework is evidence based and simple descriptive statistics is used to present the results. The study reviews that there are studies about the asymmetries of the relationship between oil price and economic growth in the context of developing, developed, oil-exporting, oil-importing and both trading character countries. It is found that, earlier studies represent the asymmetric responses of oil price shocks to economic growth according to diverse methodologies and context. Moreover, some studies found symmetric, linear, non-linear and unidirectional causal relationship. Therefore, the present study suggests that further studies on the issue of asymmetric relationship between oil price shocks and economic growth could integrate the fact of diversity in methods and presentation based on different sample context using recent databases.

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CONTRIBUTION OF CIRCULAR ECONOMY STRATEGIES TO CLIMATE CHANGE

***Gabriela-Cornelia PICIU*[65]**

Abstract:

In the Paris Agreement, signatory countries committed to keeping global temperature rise below 2 °C and, if possible, to 1.5 °C and to present Nationally Determined Contributions (NDCs), and ways to approach each elements state on climate change.
This article examines how the circular economy (CE) can contribute to achieving climate goals at both country and EU level.
For this purpose, an analysis of the measures adopted by the EU member countries is carried out. and globally, towards reducing the effects of climate change, as well as the potential of circular economies for their mitigation.

Keywords: *circular economy, climate change, measure*

***JEL classification*:** Q54, Q56, Q58

Introduction

In December 2016, countries around the world have committed through the Paris Agreement to keep global temperature rise below 2 °C and, if possible, to 1.5 °C.

Thus, all signatory countries of the Paris Agreement take an active part in global cooperation in the field of climate change, proposing ways to reduce greenhouse gas (GHG) emissions through Nationally Determined Contributions (NDCs). These NDCs contain mitigation targets that reflect each country's anticipated contributions to help keep the increase in global average temperature below +2◦C (UNFCCC, 2015a).

To achieve their proposed climate change goals, developed countries use a model that focuses heavily on long-term decarbonization strategies. Developing countries (defined by the UN based on geographic and economic criteria; United Nations, 2018), are directing their actions towards developing or revising ways to limit GHG emissions in their NDCs.

Thus, it was found that many countries still need to develop systematic political, legislative and financial mechanisms to support development and implementation of their NDC targets.

In this context, the implementation of circular economy (EC) strategies has been considered as a possible tool to help meet the NDC.

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Description of the Problem

In the specialized literature, there is an absence of an approach that would allow the analysis of the EC's contribution to the climate objectives at the scale of a country, with the possibility of identifying its critical elements.

Until now, the link between EC and the reduction of GHG emissions has been highlighted through the results obtained as a result of the measures taken regarding the recycling of materials or waste management, their reuse, repair or remanufacturing. Assessments carried out in this context have often been partial, with limitations to certain materials and/or industrial sectors, and therefore do not cover the activities of an entire country.

Methodology and Data

Based on information sources such as EUROSTAT, the European Commission's Joint Research Center (JRC), the International Energy Agency (IEA) and the World Bank, they identified which sectors have the most emissions and where they should concentrate circular economy efforts.

The article addresses the need to develop a methodological framework with which to assess the potential of implementing EC strategies to achieve mitigation goals as described in their NDCs.

Due to the difficulties encountered in planning and defining NDCs, a methodology is proposed to be used and applicable to any country in the world.

The proposed methodology has as its starting point the realization of GHG emissions projections from 2030 (Figure 1) of the country within a reference scenario, in which the year 2030 is chosen as the reference year.

The issues are then classified into different categories to identify the key issuing sectors.

From the specialized literature of EC strategies that have the ability to mitigate the emissions of those critical sectors, relevant measures are identified that form what we define as a set of GHG mitigation measures.

This set of measures is then applied to the baseline scenario, resulting in a new 'mitigation scenario' for 2030 (green box in Figure 1).

In a final step of the methodology), emissions from the developed mitigation scenario are compared to several defined benchmarks:

(1) 2030 mitigation target of NDC submitted by the country

(2) the maximum total GHG emissions that the country can allow to be in line with the 2-degree target specified in the Paris Agreement under different allocation principles and referred to as "2-degree benchmarks".

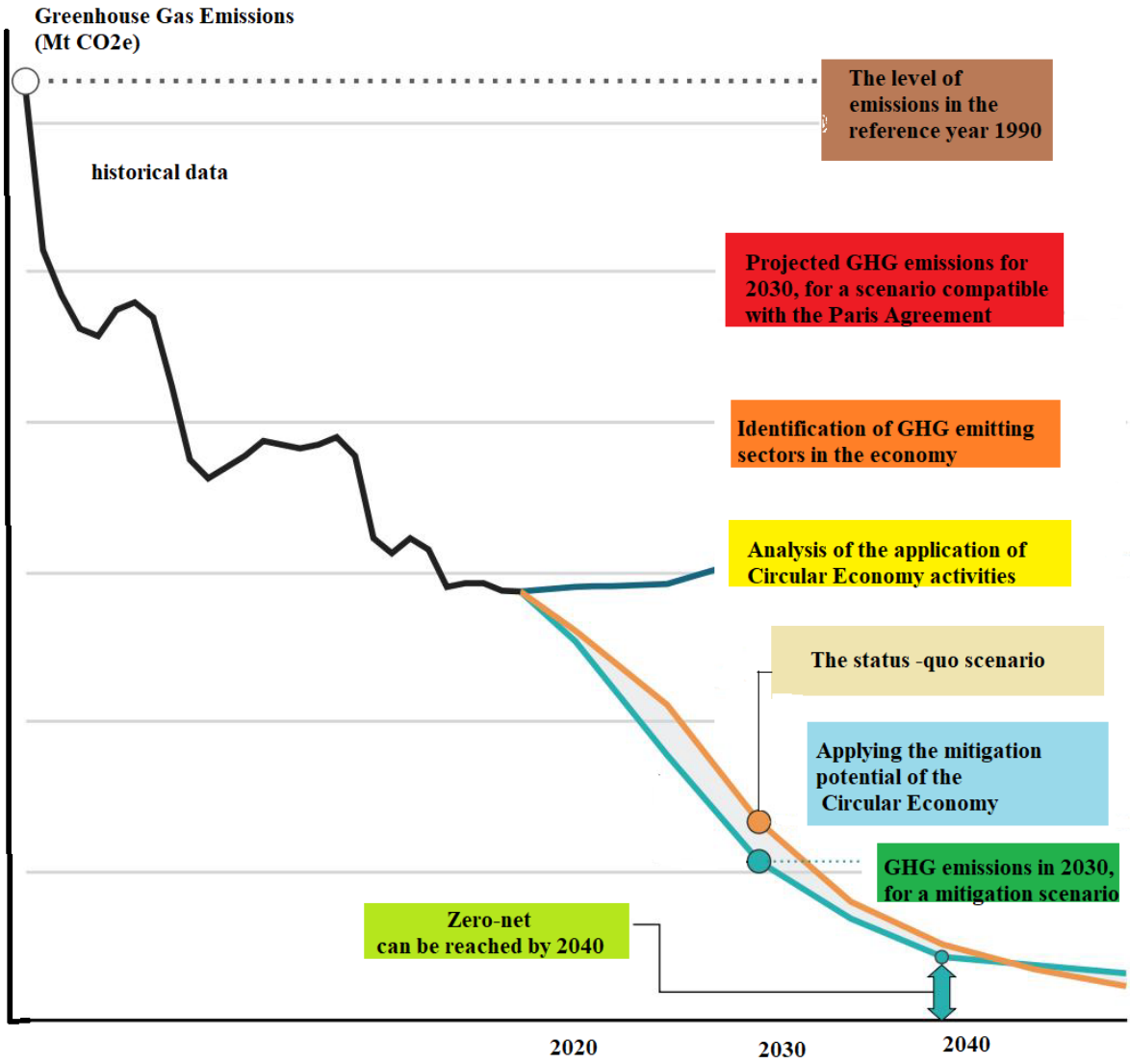
Greenhouse Gas Emissions
(Mt CO2e)
The level of emissions in the reference year 1990
historical data
Projected GHG emissions for 2030, for a scenario compatible with the Paris Agreement
Identification of GHG emitting sectors in the economy
Analysis of the application of Circular Economy activities
The status -quo scenario
Applying the mitigation potential of the Circular Economy
GHG emissions in 2030, for a mitigation scenario
Zero-net can be reached by 2040
2020
2030
2040

Figure 1: GHG emissions projections

Source: own conception

Results

Paris Agreement signatory countries reported different categories and subcategories of GHG emissions and removals. Thus, the following categories of main polluting sectors in the economy were established:

(1) - Energy;

(2) -Industry;

(3) -Agriculture;

(4) -Constructions;

(5) - Transportation;

(6) Waste

(7) Land use change and forestry

The share of pollution of these sectors following the following GHG results can be found in Figure 2.

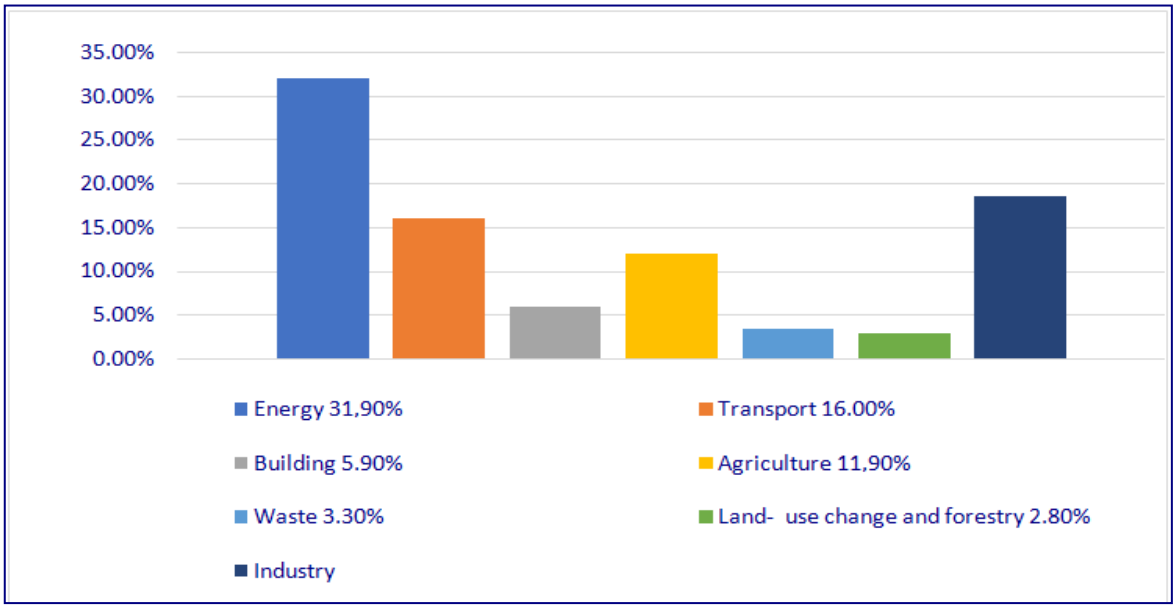

Figure 2: Polluting sectors of the economy and the share of their GHG

Sursa: date EUROSTAT (2021)

It can be seen that the sectors: Energy, Industry, Transport and Agriculture have the largest share and for this reason we use them in our analysis. These 4 main categories are divided into subcategories, providing different degrees of detail (Table 1). The 2030 estimates do not provide details on the distribution of emissions among those categories.

In the present methodology, it is assumed that the share of GHG emissions attributed to each (sub)category of emissions in the scenario for the year 2030 is the same as the emissions reports made by the country found in the EUROSTAT data.

To make the assessment of EC potential manageable, not all subcategories can be considered individually.

The relevance of this approach is also limited because only relatively few categories generally determine a country's GHG emissions.

This is the reason why in the methodology we propose to retain only the I categories for which the GHG emissions are considered significant in the 2030 reference scenario.

Thus, an algorithm was developed to short list these categories (Figure 1). This algorithm introduces a threshold, which is the minimum emission share of the total emissions that a category must meet in order to be retained.

The value of this threshold is obtained as the sum of GHG emissions of all selected categories and includes at least 90% of the total GHG emissions of the country.

The choice of 90% is an arbitrary compromise to overcome the difficulty of searching for data on certain individual sectors, while maximizing the accuracy of the assessment by considering as many detailed categories as possible.

The categories pre-selected after applying the algorithm are those that are subject to emission reduction through one or more EC strategies.

Identifying EC strategies

We have conducted a review of various "R-frameworks", which identify and classify different CE strategies based on their ability to recycle a maximum of products, product parts and materials to minimize waste and resource demand.

The “9R” framework introduced by Potting et al. (2016) as the most detailed and nuanced classification, aiming to highlight as many types of possible EC strategies as possible.

Table 1: "R frames"

CE strategy group	CE strategy type		Description
Group 1 Smarter product manufacturing and use	R0	Refuse	Make product redundant by abandoning its function or by offering the same function with a radically different product
	R1	Rethink	Make product use more intensive (e.g., by sharing products or by putting multi-functional products on the market)
	R2	Reduce	Increase efficiency in productmanufacture or use by consuming fewer natural resources andmaterials
Group 2 Extend lifespan of product and its parts	R3	Reuse	Reuse by another consumer of a discarded product which is still in good condition and fulfils its original function
	R4	Repair	Repair andmaintenance of defective product so it can be used with its original function
	R5	Refurbish	Restore an old product and bring it up to date
	R6	Remanufacture	Use parts of discarded product in a new product with the same function
	R7	Repurpose	Use discarded product or its parts in a new productwith a different function
Group 3 Useful application of materials	R8	Recycle	Processmaterials to obtain the same (high grade) or lower (low grade) quality
	R9	Recover	Incineration of material with energy recovery

Source: Potting et al. (2016)

In the proposed methodology, it was considered the most relevant reference system for the classification of EC strategies, since the boundaries between some of these types of strategies are sometimes difficult to stabilize; we opted to use a more aggregate level of classification, with three groups:

- Class 1: Smarter manufacturing and use of products;

- Class 2: Extending the life of the product and its markets; and

- Class 3: Useful application of materials.

Three criteria were defined to identify and select relevant CE strategies to be included in the methodology:

1) the CE strategy can be classified in one of the CE strategies from the 9R classification groups (Table 1);

2) the strategy can be applied in the country considered at local, regional or national level;

3) the EC strategy has been shown to potentially reduce GHG emissions of a given category and a mitigation potential of this strategy can be estimated (expressed as a percentage reduction of national emissions below 2030 reference levels).

Data availability can ensure that these three criteria are met. In particular, it is difficult to find all the specific data in question, thus requiring assumptions and extrapolations that must be transparently documented and justified.

When several circular economy strategies can be identified for the same category, they should be combined to calculate the reduction in GHG emissions, assuming that all strategies are applied at the same time. However, it is worth noting that the mitigation potential of the combined strategies may not be the sum of the individual mitigation potentials. This should be considered if the data allow providing the true mitigation potential of all strategies combined.

Results

Identifying the greatest GHG mitigation potential, when potential EC strategies are reviewed, they are selected based on three criteria, two of which are the categories in Table 1, which indicate where they apply and the EC strategy group they belong to. The categorization of GHG emissions adopted in the methodology allows the reduction of GHG emissions according to the sectors of origin and the EC strategy group to identify where the greatest mitigation potentials lie.

Both perspectives can thus serve as strong support for policy makers in identifying where priority should be set for GHG mitigation.

Conclusions

The methodological framework proposed in this study presents a systematic perspective, covering all activities and sectors in a given country, so that the evaluation results support the development of NDC.

The relevance of such an approach lies in the fact that it covers almost 91% of all GHG emissions. This requires urgent actions to implement the circular model targeting emission sources in these (sub)categories.

By developing and applying this methodology, it becomes possible to quantify the mitigation potentials of different GHG reduction measures.

Such results can support policy-making and NDC planning processes. The proposed methodology not only identifies the location of points in highly polluting economic sectors that can bring the most environmental and economic benefits, it improves sustainable development policies.

By reporting the data obtained following the application of the methodology, we obtain the broader perspectives of the promised contributions (NDC) and other benchmarks, such as: national carbon budgets. Such insights are necessary for measuring and anticipating the performance of EC strategies and drawing up NDC plans.

The use of benchmarks provides some aspects of environmental sustainability.

Incremental improvements, for example reducing the impacts of climate change, may not be sufficient if the overall magnitude of impacts remains at unsustainable levels

For climate change, sustainable levels can be defined using the planetary boundaries framework, which defines a safe operating space for humanity and includes two control variables for climate change: CO2 concentration and radiative forcing, or by reference to specific targets such as be the 1.5 or 2 degree objectives of the Paris Agreement (UNFCCC, 2015a).

By comparing the climate change mitigation potentials achieved by EC strategies against such benchmarks, policy makers are therefore strongly supported to assess the effectiveness of their NDC plans.

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CIRCULAR ECONOMY - SUSTAINABLE DEVELOPMENT BETWEEN PRESENT AND FUTURE

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Abstract:

The actuality of the research is determined by the insufficient theoretical-methodological substantiation of the concept of circular economy as a driving force of sustainable development. This requires the conceptualization and further development of the sustainable development methodology. Theoretical approaches should be able to adapt to the specifics of our country, taking into account the influence of natural, economic and institutional factors. The objective of the study is to analyze the applicability of modern interpretations of the circular economy and circular economy models to the conditions of the national economy. The hypothesis is formulated based on the results presented in the analysis section of the specialized literature and consists in the fact that one of the basic rules of the circular economy is the transformation of waste into new resources for other industries. The process of transition to a circular economy is closely linked to the reconsideration of sustainable consumption and production patterns in order to identify future development opportunities. The research approach is of a theorized type, as it folds on the aspect of the evolution of the notion of circular economy. This study was developed within the State Program 20.80009.0807.22 "Development of the mechanism for formation of the circular economy in the Republic of Moldova" and State Program 20.80009.0807.16 "Development of new economic instruments for assessing and stimulating the competitiveness of agriculture of the Republic of Moldova for 2020-2023" funded from the state budget through the National Agency for Research and Development of the Republic of Moldova.

Keywords: *circular economy, European framework, transition, green economy, waste hierarchy, degree of recycling.*

JEL classification: *Q50, Q5, Q57, Q58.*

Introduction

This scientific paper aims to contribute to the understanding of the concept of circular economy, as well as the perception of circular economy models at European and national level from the perspective of sustainable development. The paper emphasizes the defining approaches of the circular economy and identifies various interpretations of the concept, in order to later discuss the European vision on the concept of circular economy, including normative and legislative regulation in achieving a European circular economy, especially from the perspective of its contribution. to activities such as recycling, revaluation, digitization and

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innovation. Starting from the theoretical and European public policy aspects, the article continues with an analysis of the stage of implementation of circular economy activities in the Republic of Moldova, highlighting circular solutions. The results presented in this article are analyzed in correlation with the existing evidence in the literature, with public policy documents and progress reports that monitor the implementation of circular economy activities at the national level.

Thus, in recent years, the circular economy represents an important strategic model for any country, but being more strongly addressed by the countries of the European Union. Therefore, the use of circular models has placed this approach at the heart of the EU's development strategy, supported by the European Structural and Investment Funds. The circular economy model involves focusing on reducing the use of non-renewable resources and introducing innovative and sustainable elements into the consumption phase that respond to huge environmental challenges, such as resource scarcity, global warming and waste management.

The research proposes a theoretical and critical approach to recent circular economy legislation, such as: the Circular Economy Action Plan, the Circular Economy Action Package, the Monitoring Plan, the European Green Pact, etc. Therefore, all these measures and legislative actions offered by the EU focus on solving the problems that exacerbate the environment and climate. Because climate change is a global challenge that needs a global response, the EU is committed to contributing to increasing the level of ambition at the world scale and offers an example in this regard.

In this context, EU countries have approved the goal of achieving climate neutrality by 2050, in accordance with the Paris Agreement. To this end, the EU has set ambitious measures and targets for reducing greenhouse gas emissions for key sectors of its economy. Over the last two years, the EU has recognized the need for a favorable framework to ensure a cost-effective as well as balanced and socially equitable transition to climate neutrality, taking into account different national circumstances, as EU leaders highlighted the significant economic, societal and technological opportunities that the transition to climate neutrality will bring.

Literature review

According to the studied literature, the circular economy in the latest research in the field is considered a component of sustainable development, bringing to the fore the need to optimize resource consumption to prevent, reduce waste and promote reuse. The development of a circular economy needs new approaches to the life cycle, which will allow overcoming the barriers associated with the takeover at the level of the consumer market of the latest technological innovations in this field.

Therefore, in 1990, Pearce and Turner propose to go beyond the usual way of understanding economic activities, the environment and the relationship between these two systems. According to this approach, the relationship between the environment and the economy is more than a relationship of linear interdependence and develops a new economic model, called the *circular economy*. The environment fulfills three functions within the proposed model: provider of resources for the economic system, assimilator of waste resulting from

economic activities and a direct provider of utility in the form of spiritual comfort and aesthetic pleasure. Against the background of climatic, social and economic transformations, the concept has enjoyed increased attention and has developed not only in various disciplines, but also in the literature (Kirchherr et al., 2017) or in public policy documents (Jun and Xiang, 2011; Rizos et al., 2017), as environmental issues and the interaction between it and economic and social activities lie beyond the limits of time and space (Tietenberg and Lewis, 2012), (Ghența, M., Matei, A., 2018).

Currently, an essential aspect in supporting the new form of the economy - *the circular economy*, is the one on how to manage waste. Increasing quantities of waste are direct consequences of consumption that exceeds real needs and, at the same time, alters the state of the environment as the main provider of resources. Thus, the management of natural resources is closely and directly dependent on waste management. Moreover, it is very important to emphasize that the education and training of skills given to the requirements of these circular processes, is a basic pillar that allows the transition from theory to practical aspects of implementing the circular economy (Căutișanu, C. 2018).

The purpose of the circular economy is to ensure that the use of resources is decoupled from GDP growth, while limiting the negative impact on the environment. Thus, contemporary researchers focus on studying several models of business circularity. Therefore, making progress in this direction must take into account current models in which "*today's goods are tomorrow's resources at yesterday's prices*" (Stahel, 1977), as well as the need to raise awareness, information and training. of the public. According to this idea, Stahel actively supports the idea of implementing waste prevention strategies by extending the life of goods through reuse, repair and digitization (Studiu SPO, 2018).

The idea of circularity, respectively of closing the economic loop, appears in 1976 in the report "The potential of substituting human labor for energy" (Stahel and Reday Mulvey, 1977), presenting the vision of an economic loop in relation to the creation of new job places, increase economic completeness, save resources and prevent waste.

In the same vein, we mention the reconsideration of economic growth and development from the perspective of the circular economy, focusing on:

- economic impact (GDP growth, employment rate, investments, etc.);
- environmental impact (use of resources, reduction of harmful emissions, decrease of pollution level);
- social impact (demographic changes, quality of life, education, opportunities and / or social inequities, etc.).

Consequently, from the analysis of the literature, we find that this concept has led to the formulation of several definitions: a) circular economy as a complex system based on the theory of the ecological system, but also on the laws of market economy (Wang, 2005); b) the circular economy as an industrial system based on waste disposal, through the use of raw materials, through better, superior products and systems, within innovative business models (Beaulieu et al., 2015; Ellen McArthur Foundation, 2013; 2015), c) the circular economy as a system that implies a balance between economic development, environmental protection and the economy of available resources (Jun and Xiang, 2011; Bastein et al., 2013), objective achieved through a rational and high efficiency use of resources in the production process, reducing the level of pollution, so that the negative effects of human activities on the environment are minimal; d) the circular economy as an economic model based on resource conservation and healthy consumption behavior (Zhijun and Nailing, 2007); e) the circular

economy as a model for implementing the notion of sustainable development in the context of the transformations of contemporary societies (Geldron, 2014), (Ghența, M., Matei, A., 2018).

At the same time, one can mention that the circular economy and the green economy are an integral part of the concept of sustainable development, as formulated by the Brundland Commission (1987), respectively being as "meeting today's needs without sacrificing the ability of future generations to meet their own needs". The elements identified by this commission's effort formed the basis of Agenda 21, the Rio Declaration and the 27 principles of environmental protection.

In this context, this paper aims to highlight the causal links and interdependencies between the directions of economic, social and environmental development. Quantitative and qualitative analysis allows the construction of a model associated with the concept of circular economy.

Data sources and used methods

The research approach is of a theorized type, as it focuses on the evolution of the notion of circular economy, as well as on the starting points that facilitated the placement of emphasis on circular economy models and was structured as follows: delimitation of the research problem, analysis of the level of knowledge relevant for the research problem and establishment of the hypothesis. In this context, the authors apply a set of already validated knowledge to study the concept of circular economy, considered by the authors to be an essential force for sustainable development.

The aim of this paper is to highlight the currently available research on the transition to a circular economy by reducing pressures on natural resources, sustainable growth and jobs, needed to achieve the EU's proposed targets for 2050. The hypothesis is formulated starting from the results presented in the analysis section of the specialized literature and consists in the fact that one of the basic rules of the circular economy is the transformation of waste into new resources for other industries. The process of transition to a circular economy is closely linked to the reconsideration of unsustainable consumption and production patterns in order to identify future development opportunities. In this regard, the implementation of the 2030 Agenda for Sustainable Development, in particular the Sustainable Development Goal 12, brings to the fore the need for the integrated promotion of environmental, social and economic elements. Also, during the research, there were applied: interpretation of the results described in the literature, theory of depleted resources, systems analysis, comparative analysis.

The results of research and discussions

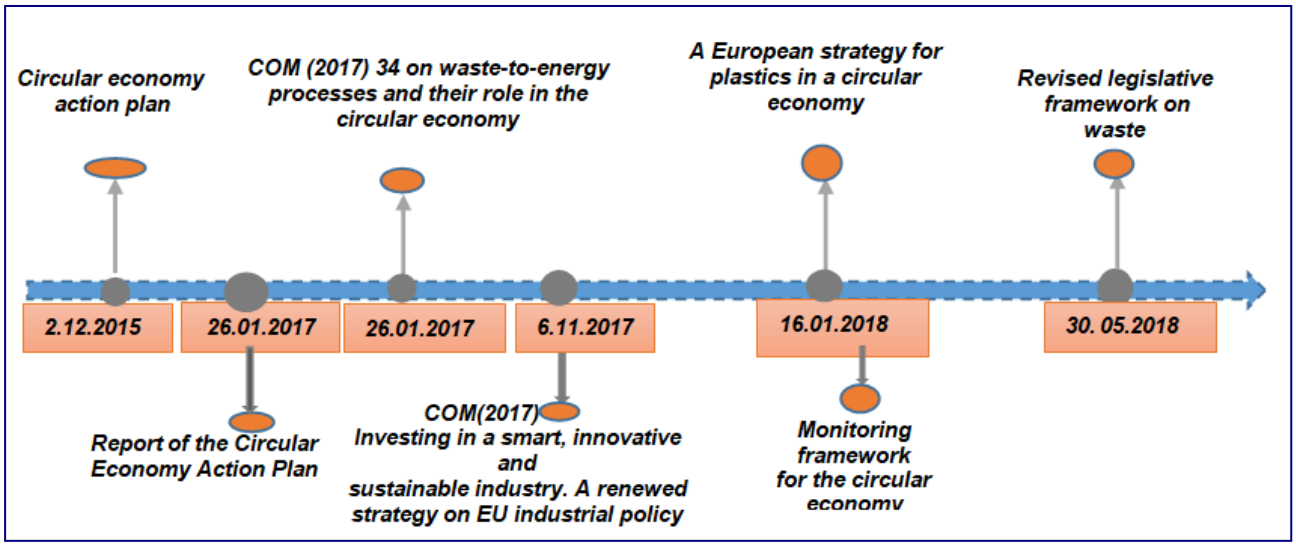
Normative and legislative regulation of the circular economy at the European level

The European Commission's first major step in the circular economy is its decision to withdraw its legislative proposal on waste and to present a new, more constructive package by the end of 2015 covering the entire business cycle, not just the waste reduction targets.

Thus, in December 2015, a "new era" of the European **circular economy** framework begins, represented by a set of well-targeted measures, approved by EU Member States. In the meantime, a number of initiatives have emerged at European level, such as:

- The European Circular Economy Stakeholder Platform facilitates the exchange of good practices between stakeholders and provides them with a database that includes good practices at European level.
- The European Cluster Collaboration Platform (ECCP) supports collaboration between EU thematic clusters, as well as initiatives at the international level.
- The Enterprise Europe Network includes around 600 organizations from over 60 countries in order to support SMEs in accessing funding opportunities for eco-innovation, energy and resource efficiency, etc.

These platforms also encourage and provide an opportunity for European Union organizations to finance the circular economy. Thus, in this article, the authors highlight the most important legislative acts in the EU on the circular economy that can be re-granted, also, in the Republic of Moldova.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Monitoring framework for the circular economy

Figure 1. EU actions for the circular economy in the period 2015-2018

Source: developed by authors

Regulatory policies for the circular economy have been proposed by the European Commission with the adoption of the first Circular Economy Action Plan, which includes measures to help stimulate Europe's transition to a circular economy, boost global competitiveness, enhance sustainable growth and generating new jobs.

EU first circular economy plan: **Communication: Closing the loop - an EU circular economy action plan, - Brussels, 2.12.2015, COM (2015) 614 final** - a concrete and ambitious action program is set out, with measures covering the whole cycle: from production and consumption to waste management and the secondary raw materials market, as well as a revised legislative proposal on waste.

This package, adopted by the Commission on December 2, 2015, includes legislative proposals on waste, with a number of long-term objectives for reducing waste disposal and increasing recycling and reuse degree. Thus, the circular economy package includes 54

measures to "close the circle" in the life cycle of products - from production and consumption, to waste management and the secondary raw materials market.

The COM (2.12.2015) includes, for the first time, a **definition of the circular economy** as an economy "in which the value of products, materials and resources is maintained in the economy for as long as possible and waste generation is minimized". At the same time, at the end of the COM communication (2.12.2015), a monitoring framework is proposed through the existence of a set of key indicators, which will reflect the main elements and progress towards a more circular economy and the effectiveness of action at EU and national level. According to the communication: many relevant data already collected by Eurostat may underpin this monitoring. In addition, the Resource Efficiency Scoreboard and the Raw Materials Scoreboard contain relevant indicators and relevant analysis that will be particularly useful in monitoring the realized progress.

According to the COM Communication (2.12.2015), in order to close the loop on product life cycles, it also included an Action Plan to support the circular economy at every stage of the value chain: production, consumption, repair and manufacturing, waste management and secondary raw materials that are reintroduced into the economy. The EU supports financially this transition through the European Structural and Investment Funds, Horizon 2020 program, the European Fund for Strategic Investments (EFSI) and the LIFE program. All 54 actions under the plan have been completed or are being implemented.

According to the evaluation of the European Commission presented in the impact study of the circular economy package (**Report on the implementation of the Circular Economy Action Plan, COM (2017) 26.1.2017)**), the following important actions are assigned:

i. The first action taken by the Commission concerned legal guarantees for the consumer goods. On December 9, 2015, the Commission adopted a legislative proposal on online sales of goods. The proposal seeks to strengthen the guarantees offered to consumers in order to provide them with better protection against defective products and contributes to the durability and repair potential of products. This prevents the disposal of products and contributes significantly to the circular economy.
ii. On March 17, 2016, the Commission proposed a regulation that will create a genuine single market for fertilizers manufactured from secondary raw materials (especially recycled nutrients), thus turning waste management issues into economic opportunities. The draft regulation provides for rules for the free movement of all CE marked fertilizer products throughout the EU, including for organic fertilizers.
iii. The Commission has published a call for expressions of interest for "Innovation Agreements for a Circular Economy", which was launched from May 26 to September 15, 2016. The call represented a pilot approach to help innovators facing obstacles with respect to regulation.
iv. Ecological design for a more circular economy. On November 30, 2016, according to the Ecodesign Work Plan for 2016-2019, (as part of the Clean Energy Package for All Europeans), the New Work Plan was implemented which contributes to achieving the EU's energy and climate goals under the Paris Agreement, with the aim of achieving energy savings comparable to Sweden's annual primary energy consumption by 2030, through creation of jobs and stimulation of innovation.
v. On August 1, 2016, the Commission set up the EU platform on food loss and waste. It launched a stakeholder platform on food waste prevention, made progress in developing an EU methodology for measuring food waste and prepared EU-wide

guidelines for facilitating food donations and the use of former foods as feed for animals [6]. Therefore, the necessary steps have been taken to meet the commitment to meet the Sustainable Development Goals by halving food waste per capita by 2030.

From the above mentioned, a number of key measures have been taken in areas such as food waste, green design, organic fertilizers, guarantees for consumer goods, innovation and investment. These initiatives are important to support the circular economy that covers the entire value chain, from production to consumption, waste management and the use of secondary raw materials.

Commission adopted **Communication on waste-to-energy processes and their role in the circular economy - Brussels, 26.1.2017, COM (2017) 34 final.** The main objective of the communication is the energy capitalization of the waste used for residual waste treatment by (ensuring the recovery of energy from waste in the EU) supporting the objectives of the circular economy action plan and strictly following the EU waste hierarchy. This document highlights the main objectives:

1. The position of the various waste energy recovery processes and the implications of this position for public financial support is clarified in the waste hierarchy.

Thus, according to the communication, the **waste hierarchy** represents the cornerstone of EU waste policy and legislation and a key element in the transition to the circular economy. The aim is to establish an order of priority that will minimize the adverse effects on the environment and optimize the efficient use of resources in waste prevention and management operations. Waste energy recovery processes include very different waste treatment operations, ranging from "disposal" and "recovery" to "recycling".

The waste hierarchy and the protection of the health of the population and the environment are obligations and not options. Failure to do so will result in severe fines. Waste managers at the level of producers or waste holders must take concrete steps to respect the waste hierarchy and protect the health of the population and the environment when designing, applying, verifying and analyzing the effectiveness of the waste management system within the community or organizations:

2. provide Member States with guidance on how they can make better use of economic instruments and capacity to avoid or address potential overcapacity problems of waste incineration;
3. identify the technologies and processes that currently have the greatest potential for optimizing the production of energy and materials, taking into account the expected change in the materials that enter into the processes of energy recovery of waste

Also, among the considered recommendations is that of reducing the volume of mixed waste, i.e., increasing public support for energy recovery, due to separate collection obligations and more ambitious EU recycling targets. In this context, it is also considered to stimulate the use of BAT, the development of industrial parks and industrial symbiosis.

Communication: “Investing in a smart, innovative and sustainable industry. A renewed strategy on EU industrial policy - Brussels, 6.11.2017, COM (2017) 479 final / 2.

The communication proposes to strengthen the capacity of industry to adapt and innovate to the requirements, to facilitate investments in new digital technologies for a transition to a more circular low-carbon economy. Stimulating the use of the technology base and adapting new business models will foster future viability and better functioning of the single market.

The document includes a number of 27 critical raw materials important for Europe's

economy. Thus, the strategy enables companies to create jobs and economic growth, to protect regions and workers from industrial change and to strengthen and protect Europe's leadership, as well as competitiveness and technological advancement.

With regard to the regulation of waste management at the EU level, a number of legislative acts have been adopted. Therefore, the main waste directives are:

- Directive (EU) 2018/849 of May 30, 2018 amending Directive 2000/53 / EC on end-of life vehicles;
- Directive 2006/66 / EC on batteries and accumulators and waste of batteries and accumulators;
- Directive 2012/19 / EU on waste of electrical and electronic equipment;
- Directive (EU) 2018/850 of May 30, 2018 amending Directive 1999/31 / EC on landfills;
- Directive (EU) 2018/851 of May 30, 2018 amending Directive 2008/98 / EC on waste;
- Directive (EU) 2018/852 of May 30, 2018 amending Directive 94/62 / EC on packaging and packaging waste.

The revised legislative framework on waste entered into force in July 2018. Thus, after amending Directive 2008/98 / EC, the main objective of the new Directive 2018/851, according to Article 1, is to establish "measures to protect the environment and public health through preventing or reducing the generation of waste, the adverse effects of waste generation and management and reducing the overall effects of resource use and increasing the efficiency of their use, which are key to the transition to a circular economy and to ensuring the Union's long-term competitiveness".

Within the mentioned Directive, art. 5 specifies the correct management of waste by "using economic instruments and other measures in order to provide incentives for the application of the waste hierarchy, or other appropriate instruments and measures".

More detailed on the approach of the waste hierarchy is provided in the old Directive 2008/98 / EC, art. 4, paragraph 1. "shall apply as an order of priority in the framework of legislation and policy on the prevention of the generation and management of waste: (a) prevention; (b) preparation for re-use; (c) recycling; (d) other recovery operations, such as energy recovery; and (e) the elimination".

Following the above mentioned, the revised legislative framework on waste under Directive 2018/851, in order to move to a European circular economy with a high degree of resource efficiency, Member States shall take the necessary measures **to achieve the following objectives**: Directive 2018/851, in accordance with art.11 par. 2

- separate collection of hazardous household waste (until the end of 2022), biological waste (until the end of 2023), textiles (until the end of 2025).
- preparation for **reuse and recycling of municipal waste** increases to a minimum level of 55% of weight by 2025, respectively 60% of weight by 2030 and 65% of waste by 2035.
- Starting with January 1, 2027, Member States may consider municipal bio-waste entering aerobic or anaerobic treatment as recycled only if they have been collected separately or have been separated at source, according to art. 22.
- waste disposal meant to reduce the waste landfill to a maximum of 10% of municipal waste by 2035;
- By January 1, 2025, Member States shall organize the separate collection of **hazardous waste** fractions from households to ensure treatment and to ensure that they do not

contaminate other municipal waste streams.

- specific measures to **combat food waste and marine litter**, in order to achieve the United Nations Sustainable Development Goal of 50% reduction in food waste per capita worldwide, in the retail and consumer network, and on reducing food losses in production and distribution chains by 2030;

Directive 2018/852, according to art.6 par. 5

- **recycling of packaging waste** by December 31, 2025 at the latest, of at least 65% of the weight of all waste, while at least 70% of the weight of packaging waste will be recycled by December 31, 2030;
- **recycling targets for certain packaging materials, by December 31, 2025** at the latest, for the recycling of the following specific materials contained in packaging waste: Paper and board: 75%, Ferrous metals: 70%, Glass: 70%, Aluminum: 50%, Plastic: 50%, Wood: 25%.
- **recycling targets for certain packaging materials, no later than December 31, 2030:** Paper and cardboard: 85%, Ferrous metals: 80%, Aluminum: 60%, Glass: 75%, Plastic: 55%, Wood: 30%.

During 2018, several actions related to the circular economy were carried out. Thus, the European Commission has published the so-called **circular economy package**. The first important action is the adoption of a European strategy on plastics: **Communication: A European strategy for plastics in a circular economy Brussels, 16.1.2018, COM (2018) 28 final** - this strategy lays the foundations for a new plastics economy, in which the design and production of plastics and plastics products fully meet the needs of reuse, repair and recycling and in which more sustainable materials are developed and promoted.

This Strategy proposes concrete actions to turn the vision for a more circular economy of plastics into reality. In this context, the strategy proposes a set of measures at the EU level, as by 2030 all plastic packaging should be recyclable, thus contributing to the transition to a more circular economy. The strategy provides for actions to:

1. Improving the economic aspects and the quality of plastics recycling;
2. Reduction of plastic waste and waste disposal in the public domain;
3. Orientation of investments and innovation towards circular solutions;
4. Capitalizing the action at the global level.

According to this objective, the strategy contributes to “achieving the priority set by the Commission on an energy union with a modern, low-carbon and energy-efficient and resource-efficient economy, and will make a tangible contribution to achieving the sustainable development objectives for 2030 and in compliance with the Paris Agreement”. Through this approach, the entire value chain is covered, which encourages economic growth, creation of job places and innovation. At the same time, such an approach can reaffirm European leadership in global solutions and can help us in making the transition to a circular, low-carbon economy, while providing citizens with a cleaner and safer environment. The Communication notes that on Europe's external market, per capita consumption of plastics is growing rapidly, as well as in Asia. Thus, the value chains of plastics are spread across continents, and plastic waste is traded internationally: in the EU, almost half of the plastic waste collected is sent abroad, where uncertainties remain about its treatment. And more than 85% of exported plastic waste is currently shipped to China, a situation that will soon change given China's decision to ban the import of certain types of plastic waste, thus creating opportunities for EU recycling companies.

As part of the strategy, the Commission has launched several international forums and "commitment campaigns to ensure that by 2025, ten million tons of recycled plastic are found in new products on the EU market". Respectively, the initiatives launched within international fora (such as the G7, G20, the United Nations and in the context of the MARPOL Convention) and regional maritime conventions; the agenda for international governance of the oceans for the future of the oceans includes, also, actions against marine litter.

Another **Communication on the implementation of the circular economy package: options to address the interface between chemical, product and waste legislation. Strasbourg, 16.1.2018 COM (2018) 32 final.** The proposed framework aims to facilitate recycling and increase the use of secondary raw materials by limiting unnecessary constraints and facilitating the cross-border movement of secondary raw materials so as to ensure that they can be easily traded across the EU. Another objective of the Communication is to replace chemicals of concern and, where this is not possible, to reduce their presence and improve their traceability.

Communication on a monitoring framework for the circular economy. Strasbourg, 16.1.2018 COM (2018) 29 final. The Commission proposes an EU monitoring framework for the circular economy, consisting of a set of key indicators, covering each stage of the product life cycle, at European and national level. Spectrum of indicators will be constantly updated on the website dedicated to the monitoring framework. This site includes tools for monitoring progress and documents methodologies for indicators, data sources, definitions and publication standards, in particular on food waste and green public procurement. The monitoring framework consists of a set of 10 indicators grouped into four stages and aspects of the circular economy: (1) production and consumption, (2) waste management, (3) secondary raw materials and (4) competitiveness and innovation. The results of the monitoring framework must be based on setting new priorities for achieving the long-term goal of the circular economy.

In 2018, the European Commission adopted other ambitious initiatives in the context of the Circular Economy Action Plan: **the EU Directive on reducing the environmental impact of certain plastics. Brussels, 28.5.2018 COM (2018) 340 final.** The European Commission proposes on May 28, 2018 for adoption of a new directive that aims to reduce the impact of certain plastics on the environment by implementing the EU Strategy for Plastics, addressing the gaps identified in existing legislation. The Directive proposes main actions for specific disposable plastic articles, taking into account consumer behavior, as well as consumer needs and opportunities for businesses. When alternatives are clearly available - both single-use and multi-use - restrictions are proposed. Other measures include appropriate labeling, raising awareness, voluntary action and establishing extended producer responsibility schemes that would also cover the costs of landfilling.

EU Directive on port reception facilities for the unloading of ship-generated waste, repealing Directive 2000/59/EC and amending Directive 2009/16/EC and Directive 2010/2010/65/EU. Strasbourg, 16.1.2018 COM (2018) 33 final.

Through the new directive adopted on January 16, 2018, Member States are called upon to achieve a higher level of protection of the marine environment by reducing discharges of waste at sea, as well as by improving the efficiency of maritime operations in the port, reducing administrative burdens and updating regulatory framework. Thus, this directive contributes to achieving the objectives of the Marine Strategy Framework Directive, which aims to protect the marine environment and aims to achieve a good ecological status of all EU marine waters by

2020. The Directive, therefore, implements the provisions of the Waste Framework Directive through better waste management practices in ports, in accordance with the "polluter pays" principle and the waste hierarchy established by the EU. The directive also aims to achieve the target set in the EU Circular Economy Strategy, to reduce by 30% by 2020 the amount of marine litter found on beaches and fishing equipment lost at sea.

In 2019, the European Commission comes with new important actions for the circular economy, the most important measures being:

- ⇨ March 4, 2019 - The European Commission has adopted the 4th package of measures on the circular economy;
- ⇨ March 12, 2019 - The European Commission published guidelines on best practices in extractive waste management;
- ⇨ June 20, 2019 - The European Council adopted the EU Strategic Agenda 2019-2024, in which one of the presented priorities was to build a green, fair, social and climate-neutral Europe;
- ⇨ December 11, 2019 - The European Commission presented the European Green Pact, which sets out the roadmap to achieving a climate-neutral circular economy in which economic growth is decoupled from the use of resources.

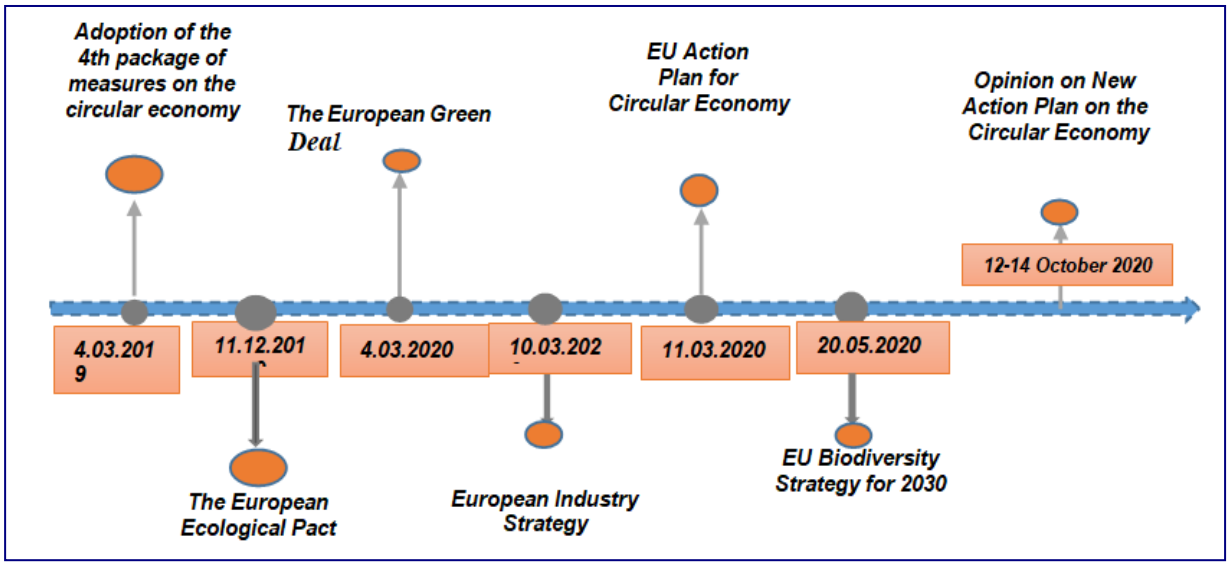

Figure 2. EU measures for the circular economy for the period 2019-2020
Source: developed by authors

Thus, on March 4, 2019, the European Commission presented a *comprehensive report on the implementation of the Circular Economy Action Plan* to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions.

Report on the implementation of the circular economy action plan. Brussels, 4.3.2019 COM (2019) 190 final. The report outlines the main results of the implementation of the action plan and defines the future challenges of shaping the EU economy by *creating a competitive advantage, paving the way for a climate-neutral economy, where pressure on natural and freshwater resources, as well as on ecosystems is minimized*. The report represents a response to the Council's request for "a written annual update on the progress made in implementing the action plan", a request also taken up by the European Parliament.

In order to create a more circular economy, the report presents the most important

achievements. Thus, the Commission defines the circularity process which means *adapting industrial processes*. To ensure the circuit, the design that is at the beginning of the product life cycle comes to the rescue. *Products and services designed in a circular way can minimize resource use and promote the reuse, recovery and recycling of materials in the future*. The Commission has introduced circularity issues (energy consumption and use of materials, waste prevention, recycling and reduction of hazardous chemicals) in reference to Best Available Techniques (BREFs) under the Industrial Emissions Directive, turning them into reference standards for Member States when granting authorizations for industrial installations.

The report also highlights the importance of adopting the first EU policy framework - the *Strategy for Plastics in a Circular Economy*, which states that by 2030, all plastic packaging placed on the EU market must be reusable or recyclable, and by 2025, 10 million tons of recycled plastics will be included in new products. The Report sets out adapted sets of measures, which are in the final stages of the legislative process on disposable plastic articles and fishing equipment, such as:

- measures to reduce the consumption of food containers and beverage cups, made of plastic, as well as the specific marking and labeling of certain products;
- the target of including 30% of recycled plastics in beverage bottles from 2030 and 25% for PET bottles from 2025, as well as the target of separate collection of 90% of plastic bottles by 2029, as well as the introduction of design requirements for connecting caps to bottles;
- measures aimed at reducing plastic waste from ships, such as the establishment of a flat fee for waste from ships, etc.

The Commission proposes that EU countries, in order to accelerate the transition to a circular economy, need to invest in innovation and provide support for adapting the industrial base. Over the period 2016-2020, the Commission has stepped up efforts in both directions, providing public funding for the transition totaling more than 10 billion EUR.

Communication The European Ecological Pact. Brussels, 11.12.2019 COM (2019) 640 final. The European Commission is proposing a European Green Pact for the countries of the European Union with the aim of: *transforming the EU into a fair and prosperous society, with a modern, competitive and resource-efficient economy, free of net emissions of greenhouse gases in 2050 and in which economic growth is decoupled from the use of resources*. A roadmap with the main policies and implementation measures is also proposed.

Achieving a circular and climate-neutral economy requires the full mobilization of industry. *It takes 25 years - a generation – in order to transform an industrial sector and all value chains*. In order to achieve this goal in 2050, it is necessary for the authorities to take decisions and take action in the next five years. An important step for the Commission is to adopt a strategy for EU industrial policy in *March 2020, which aims to stimulate the development of leading markets for climate-neutral products and for circular products* both in the EU and abroad. These actions will give priority to reducing and reusing materials before they are recycled; new business models will be promoted and minimum requirements will be set to prevent the placing on the EU market of environmentally harmful products.

The Commission aims by 2030 to develop a regulatory framework for biodegradable plastics and bioplastic by implementing measures on single-use plastics, as well as incentives for businesses to offer consumers and give them the opportunity to choose reusable, durable and repairable products. A sustainable waste reduction policy is proposed. Particular attention must be paid to access to resources, as it is also a strategic security issue to achieve the

ambitious goal of the EU's proposed Green Pact.

On October 4, 2019, the Council of the European Union adopted several conclusions on "*More circularity - the transition to a sustainable society"* in which the following issues are outlined:

- more ambitious efforts are needed to stimulate a systemic transition to a sustainable society;
- measures are needed to promote circularity, systemically, throughout the value chain, including from the perspective of consumers, in key sectors such as textiles, transport, food, as well as construction and demolition, including batteries and plastics;
- extend the scope of eco-design measures by including criteria on the efficiency of materials, such as durability, repair potential, recycling potential and content of recycled material;
- the use of economic instruments (environmental taxes, green tax reforms and extended producer responsibility schemes) is encouraged to promote the circular economy, more sustainable production and consumption patterns and better waste management [18].

The transition to a circular economy during the pandemic period - actions of the European Commission

The period of 2020-2021 was marked by tough challenges for the entire planet, shaped by the pandemic crisis of COVID-19, with a negative economic and social impact with isolation measures. However, it revealed the vulnerability and dependence of the population on raw materials. Thus, the competent institutions must find the necessary measures to transform this crisis into an opportunity for an ecological restart and a sustainable society. Below there are presented in chronological order the actions of the European Commission in 2020 on the circular economy:

- January 14, 2020 - The European Commission presented the European Green Pact Investment Plan and the Mechanism for a Fair Transition;
- March 4, 2020 - Public consultation on the *European Green Pact*, which brings together regions, local communities, civil society, businesses and schools. Proposal for a *European Climate Law to guarantee Europe's climate neutrality by 2050*;
- March 10, 2020, the *European Industrial Strategy* was adopted, a plan for an economy ready for the future.
- March 11, 2020 - proposal of the *EU action plan for the circular economy*, focused on a sustainable use of resources;
- May 20, 2020 - Presentation of the *EU strategy in the field of biodiversity for 2030*, which aims to protect the fragile natural resources of our planet;
- July 8, 2020 – Adopting the *EU strategies on energy system integration and hydrogen* to pave the way for a more carbonized, more efficient and interconnected energy sector;
- September 17, 2020 - Presentation of the *Plan on climate objectives for 2030*.

The new action plan for the circular economy, adopted on March 11, 2020, by the European Commission, is part of the main blocs of the European Green Pact, a new European agenda for sustainable growth and an EU growth strategy to achieve climate neutrality by 2050.

Communication A circular economy action plan for a cleaner and more competitive economy. Strasbourg, 11.3.2020 COM (2020) 98 final. The document proposes initiatives throughout the life cycle of products, aiming at their design, promoting the processes of the circular economy, encouraging sustainable consumption and aiming at ensuring that the resources used in the EU economy are preserved for as long as possible.

The communication proposes the following objective: *expanding the circular economy from pioneers to major economic actors will make a decisive contribution to achieving climate neutrality by 2050 and decoupling economic growth from resource use, while ensuring the EU's long-term competitiveness and that nobody is left behind*. It also states that the principles of the circular economy across the EU economy have the potential to increase EU GDP by 0.5% by 2030, creating around 700,000 new jobs. There are also clear economic arguments for individual companies: given that EU manufacturing companies spend on average around 40% on materials, closed-loop material management models can increase their profitability, while protecting them from resource price fluctuations.

With regard to the circular economy, the Commission will propose a legislative initiative on sustainable products policy in the near future. Priority will also be given to product groups identified in the context of value chains, such as electronics, ICT and textiles, as well as furniture and high-impact intermediate products such as steel, cement and chemicals. Through the new plan, the Commission aims to: stimulate industry circularity in production processes through the following measures:

- ✓ evaluating options for further promoting circularity in industrial processes, including the integration of circular economy practices into future reference documents on best available techniques;
- ✓ facilitating industrial symbiosis by developing a reporting and certification system;
- ✓ supporting the sustainability and circularity of the bioproducts sector through the implementation of the Bioeconomy Action Plan;
- ✓ promoting the use of digital technologies for locating, tracking and mapping resources;
- ✓ adoption of ecological technologies through a solid verification system, by registering the EU environmental technology verification system as an EU certification mark.

At the same time, in order to promote a longer duration of products, the Commission proposes a series of actions focused on the sectors that use the most resources and where the potential for circularity is high. Thus, the Commission introduces concrete measures on:

- ➢ electronic products and ICT - "Initiative for circularity in the field of electronics" to have products with a longer life and to improve waste collection and treatment;
- ➢ batteries and vehicles - a new regulatory framework for batteries in order to improve the durability and boost the potential for battery circularity (this legislative proposal will be based on the evaluation of the Batteries Directive and the work of the Battery Alliance);
- ➢ packaging - new mandatory requirements on what is allowed on the EU market, including the reduction of (excessive) packaging;
- ➢ plastics - new mandatory requirements for the content of recycled materials, a special attention being paid to both micro-plastics and plastics of biological and biodegradable origin;
- ➢ textiles - a new EU Strategy for textiles in order to strengthen competitiveness and innovation in this sector and stimulate the EU market for the reuse of textiles;
- ➢ constructions and buildings - a comprehensive Strategy for a sustainably built environment that promotes the principles of circularity in the case of buildings;
- ➢ food - a new legislative initiative on reuse, with the aim of replacing packaging, crockery and cutlery with reusable products in food services.

At both European and national level, this provision pays attention to the avoidance of waste production as a whole and its transformation into high-quality secondary resources that benefit

from a functioning secondary raw materials market. Thus, the Commission will examine the possibility of establishing a harmonized model at the EU level for the separate collection and labeling of waste.

The European Committee of the Regions presented an ***Opinion on the New Action Plan on the Circular Economy*** to be adopted at the plenary session on 12-14 October 2020. In this document, the authors emphasize: *the urgent need to accelerate the transition to a growth regenerative economic model, keeping resource consumption within planetary limits. Thus, it is necessary to decouple growth from resource use, a development towards a true circular society and cooperation at all levels of governance and society.* The document proposes to strengthen the local and regional pillar of the new Circular Economy Action Plan, in order to put cities and regions in the spotlight.

There is currently no comprehensive set of legal and policy requirements to ensure that all products placed on the EU market are increasingly sustainable and meet the circularity criteria, and the Commission's New Circular Economy Action Plan (CEAP) presented on March 11, 2020, aims to achieve this goal. And on June 15, 2020, the European Committee of the Regions launched the working group "Green Pact at local level", of 13 elected representatives at local and regional level, the group aims to transform the Green Pact into concrete projects and direct funding for cities and regions so that the sustainable transition can be achieved on the ground. According to the EU's latest goal, the EU's transition to a circular economy aims to reduce pressures on natural resources through sustainable growth and jobs, needed to achieve the EU's 2050 climate neutrality target and halt biodiversity loss.

Conclusions

The carried-out study is part of the flow of publications that provide for a series of answers on the conceptual interrelationships between the circular economy, the green economy and sustainable development, combining them harmoniously with developments in the framework of the green economy at the European level. Similarly, one can emphasize the need for in-depth analysis of how to build a new sustainable society in terms of sustainable consumption, with resources evenly distributed among the population, regardless of class, in which all human rights would be respected. Thus, the circular economy is closely linked to the aspects of increasing competitiveness. Achieving an optimal use of resources implies the existence of an interoperable electronic system for traceability and reporting of data based on an efficient collection infrastructure. At the same time, this concept brings with it a series of benefits, but also challenges to which all stakeholders must respond, both private and public, or ordinary citizens. The impact of waste on the environment has recently received special attention at international and European level, including the one related to toxic waste. All these elements have been transposed into policy recommendations, through which there is desired a better promotion of the circular economy in the Republic of Moldova. This demarche represents the first step in the transition to a green economy.

Therefore, current research contributes to the enrichment of the literature on the circular economy approach and circular economy models, in order to confirm the contextual trends that mediate and moderate this relationship in the conditions of the national economy. One can conclude that in order to educate contemporary society with the need to address the circular economy, it is insufficient to address only the theoretical-empirical component of this

major problem, and among the main tangible and measurable objectives, there can be identified sustainable solutions to optimize resource consumption for closing loops, which represents an important objective at the European level. However, the most important objective of the society related to the circular economy, is the good responsibility of the consumer towards the environment by rethinking the concept of consumption in the conditions of the national economy and traditions.

ACKNOWLEDGMENT

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THE EFFECT OF THE S&P 500 ON GOLD PRICES

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Abstract:

The purpose of this project is to provide a better understanding of how S&P affected Gold prices from 2009-2022 and to analyze and see the correlation between S&P 500 and Gold prices with each other. This study will use regression analysis in excel as the ultimate indicator to measure and interpret the correlation between the two variables. From the analysis, we conclude that there is a weak positive correlation between gold prices and S&P prices. Despite, during this timeline, it was shown that the variables moved also in opposite directions, the model presented in this study is relevant as the Significance P suggests that the model is significant.

Keywords: *Gold prices, S&P 500, correlation, and regression*

JEL classification: *C5, G1, and G2.*

Introduction

One of the most commonly used ways to see the relationship and correlation between 2 variables is regression analysis. This study will make use of this method and will analyze the correlation between S&P 500 and Gold Prices. Firstly, will be given a background introduction explaining briefly the two variables of this study, and other indexes, explaining why the S&P index was chosen. Then using the historical data provided by finance yahoo, a regression analysis will be conducted using excel. The findings will then be better displayed in charts and tables. After that, the final step is making a conclusion and remarks regarding the correlation between the two from 2009-2022.

The Standard & Poor's 500 Index (S&P 500, or simply S&P) is a market capitalization-weighted index of the 500 largest U.S. firms listed on the New York Stock Exchange or Nasdaq Composite. The index was first published in 1923, while the S&P 500 was first published on March 4, 1957. The S&P 500, unlike the Dow Jones Industrial Average, is a market value-weighted index that includes 500 businesses from a variety of industries, as well as growth and value stocks. The S&P 500 is one of the most widely followed equity indices for these reasons, and it is widely regarded as one of the greatest representations of the US stock market.

Until 1971, when the gold standard was replaced by a fiat currency system, gold had served as money for thousands of years. Gold has been utilized as an investment since then. Gold is frequently categorized as a commodity, yet it functions more like a currency. Yellow metal has a low correlation with other commodities and is underutilized in the industry. The yellow metal, unlike national currencies, is not connected to any particular country. Gold is a global monetary

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asset, and its price reflects global sentiment, but it is mostly impacted by macroeconomic conditions in the United States.

The link between stock prices and gold prices is a hot topic of discussion. The conventional view holds that these two markets are inversely linked: when stocks rise, gold falls, and vice versa. This is usually the case since gold is a safe haven, and when traders go into defensive mode, they may prefer gold to riskier stocks. As shown in the graph below, there have been numerous instances where stocks and gold have moved in opposite directions. As a result, gold is a strong portfolio diversifier because it hedges against the S&P 500 Index. As a result, adding gold to your equity investment portfolio is a good idea.

Chart 1: Gold prices (yellow line, left axis) and S&P 500 Index (green line, right axis) from 1971 to 2017.

The chart, which shows the gold price and the S&P 500 Index, does, however, reveal periods of co-movement (think about the 2000s). It means that the gold-stock relationship shifts over time as a result of external influences, particularly macroeconomic issues. As a result, while there is typically a shift of funds from stocks to gold during stock market crashes, the relationship between the S&P 500 and gold is complex and depends on external macroeconomic factors.

During the 2020 coronavirus crisis, the finest example would be the correlation between the S&P 500 and gold prices. As shown in the chart below, the stock market and gold market both fell in March 2020, only to rally together in April. It appears as though when the stock market went down, investors sold gold holdings to raise cash and cover margin calls.

Chart 2: Gold prices (yellow line, right axis) and S&P 500 Index (green line, left axis) in 2020.

The Dow Jones Industrial Average (commonly known as the DJIA, Dow Jones, or just the Dow) is a stock index comprised of 30 big and well-known publicly-held firms that trade on the New York Stock Exchange or the Nasdaq (such as Apple, Coca-Cola, JPMorgan Chase, Microsoft, Wal-Mart, or Walt Disney). Charles Dow established the index in 1896, making it one of the world's oldest stock indices. It's also one of the most actively watched and frequently cited stock indexes as an indicator of stock market performance, mainly amongst the general public. However, because it does not take into consideration each stock's market capitalization and only covers 30 businesses, some experts believe the S&P 500 is a better indicator of overall market performance.

Literature Review

In his study J. Risk Financial Manag. 2019, Takashi applies a quantile regression model to investigate how gold returns respond to changes in various financial indicators. The model quantifies the asymmetric response of gold return in the tails of the distribution based on weekly data over the past 30 years. He conducted a statistical test that allows finding the relationship between gold return and some key financial indicators. According to his empirical analysis of the whole sample period, he found that: (1) the gold return rises significantly if stock returns fall sharply; (2) it rises as the stock market volatility increases; (3) it also rises when general financial market conditions tighten; (4) gold and crude oil prices generally move toward the same direction; and (5) gold and the US dollar have an almost constant negative correlation. Looking at each sample period, (1) and (2) are remarkable in the period covering the global financial crisis (GFC), suggesting that investors divested from stocks as a risky asset.

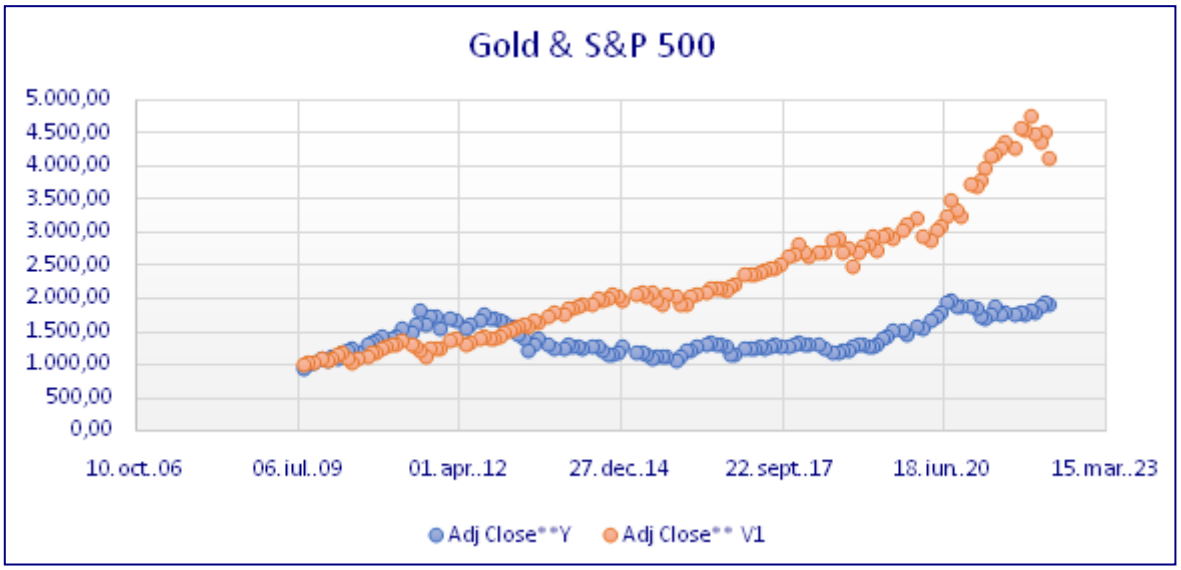
Methodology and Data

The methodology used will use primary sources taken from yahoo finance historical data including both Gold and S&P monthly prices from August 2009 to April 2022. Then using the statistical function in excel will be analyzed the data mainly by running a regression, and displaying it in different charts. This methodology will be objective as the data analysis which will be displayed by the graphs and tables will show the trend and performance of each of them in comparison with the other one. It will deal with numbers, logic, and an objective stance. Also,

an interpretation of regression statistics with be conducted to complement the received results and to give real meaning to the analysis.

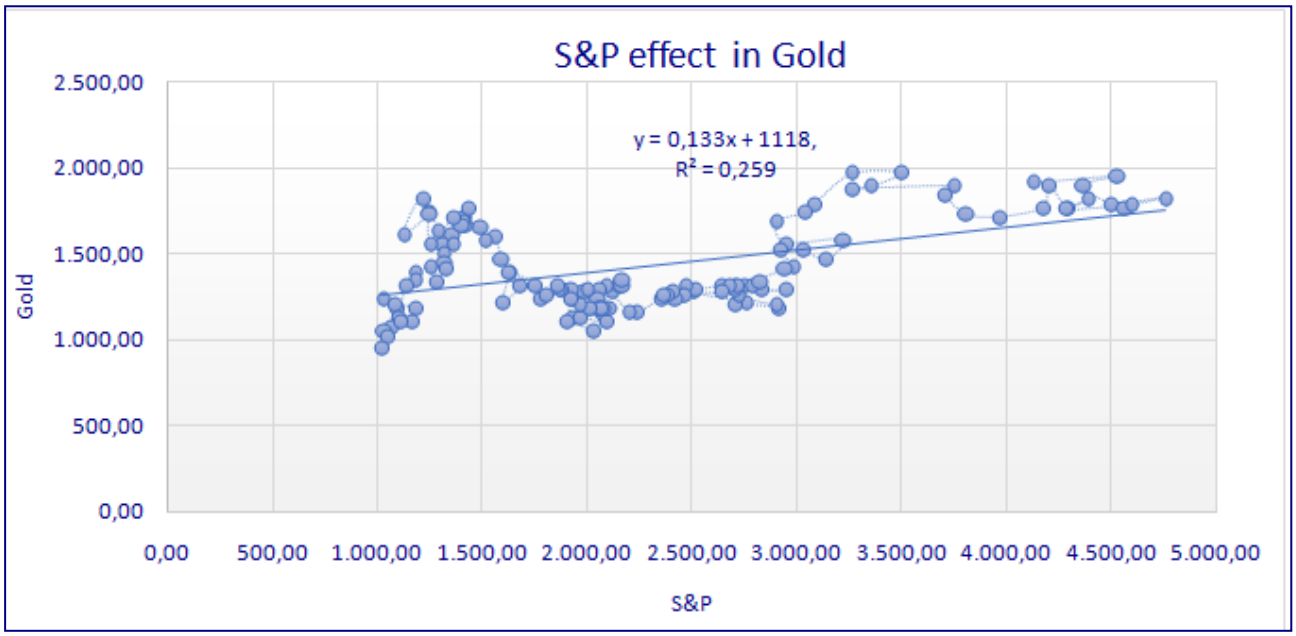
Results

As explained in the introduction part we see that S&P changes in the price sometimes move the gold price curve (red curve) in the same direction, and sometimes in the opposite direction.



By looking at the graph above, we can conclude that S&P prices' effect on gold prices in a timeline from 2009-2022 is not so clear, as sometimes is positively related (ex. 2020) and sometimes negative (2011). By having said so, I believe that the correlation between the independent variable and y (i.e., gold and S&P) is weak.

As we see the R Square which is the coefficient of determination, tells us that around 24% of the variation of gold prices around the mean is explained by the S&P prices. This tells us that the variables are positively correlated but in a weak form. This kind of correlation is also stated by the regression equation which as we see on the chart has a positive intercept which suggests that for each increase in the S&P price, there is a slight increase in the price of Gold.



Regression Analysis

Regression Statistics	
Multiple R	0,494933173
R Square	0,244958846
Adjusted R Square	0,239060087
Standard Error	220,9224974
Observations	130

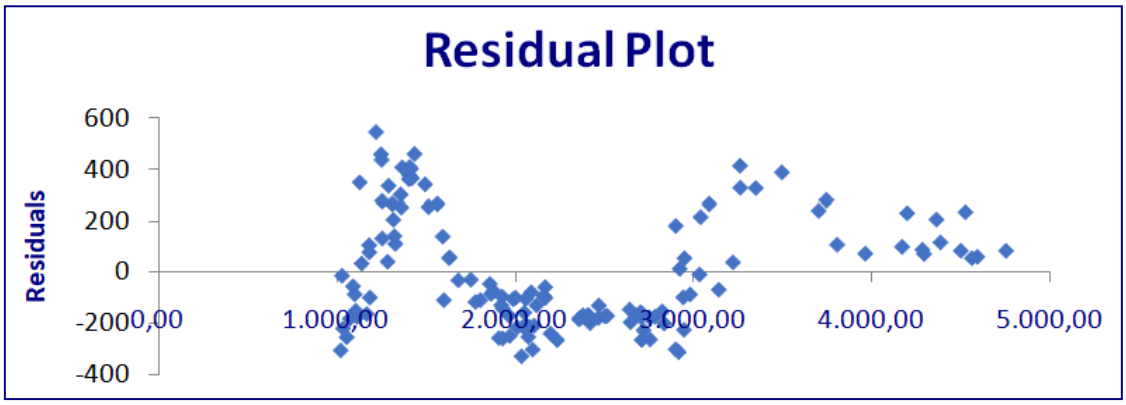
ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	2026806,843	2026806,843	41,52718319	0,0000000021543
Residual	128	6247263,983	48806,74986		
Total	129	8274070,825			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95,0%*	*Upper 95,0%*
Intercept	1124,947007	49,77122938	22,60235524	0,0000000000000000	1026,466127	1223,427888	1026,466127	1223,427888
4127,5	0,129803353	0,020142792	6,444158843	0,0000000021542874	0,089947397	0,169659309	0,089947397	0,169659309

As we see the multiple R which tells us about the correlation coefficient is 0.49, indicates a positive relationship between variables but not a very strong one. On the other hand, R2 which is the coefficient of determination tells us that around 24% of the variation of y-values (i.e., gold prices) around the mean is explained by the x-values (i.e., S&P prices). Furthermore, we see that Significance F is smaller than 0.05 meaning that this model is significant and can be considered relevant. The same goes for P-value. The lower the P-value means the greater the statistical significance of the observed difference. A P-value lower than 0.05 is, generally, considered statistically significant.

A residual plot displays the residuals on the vertical axis and the independent variable on the horizontal axis. Residual plots help us to determine whether a linear model is appropriate for modeling the given data. Since a residual is the «leftover» value after subtracting the expected value from the actual value and the expected value is obtained through a linear model such as a line of best fit, a residual plot shows how the data points deviate from the model. If the residuals are randomly scattered around the residual = 0, it means that a linear model approximates the data points well without favoring certain inputs. In such a case, we conclude that a linear model is appropriate.



If the residuals show a curved pattern, it indicates that a linear model captures the trend of some data points better than that of others. In such a case, we should consider using a model other than a linear model. In our case, the diversity of the residual plot makes it a little bit difficult to decide whether or not to choose to use linear regression as sometimes it looks like it shows a pattern, and sometimes it looks like the residuals are spread randomly. This might be one of the reasons why the relationship between stock valuations and the gold price is widely debated.

Conclusions

All in all, we conclude that based on the statistical regression analysis for the effect that S&P price changes had on Gold from 2009-2022, there is a weak positive correlation between the two variables. This was supported by R Square, which told us that around 24% of the variation in gold prices was explained by the S&P prices. However, during this timeline, it was shown that the variables moved also in opposite directions such as in the year 2011 for instance. Anyhow, the model presented in this study is relevant and can be considered, as the Significance P which was smaller than 0.05 suggests that the model is significant.

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SUSTAINABLE OPPORTUNITIES IN INNOVATIVE PUBLIC PROCUREMENT

Elena RUSU[72]

Abstract:

The author presents the system of innovative public procurement, the fundamental aspects of public procurement in the field of innovation. In the given context, he approaches the concept of innovative public procurement (IPP Innovative Public Procurement) as a process through which public entities procure goods, services, works and utilities in relational conditions optimal: price - quality, so that they generate innovative benefits for entities and society, but with minimal negative impact on the environment. To carry out the study, the authors applied traditional research methods: the monographic method, document analysis, comparison, etc. The article illustrates how public procurement can be opened for innovators, including newly established enterprises and innovative SMEs.

Keywords: *Innovative public procurement, pre-commercial procurement, sustainable procurement, environmental benefits, social benefits.*

JEL classification: O31, O36, H57

Introduction

Innovation Public Procurement (IPP) contributes to the EU's economic recovery after the crisis caused by the COVID-19 pandemic through better public investment. They are an important tool to stimulate the transformation of our economy towards a green and digital economy. Adopted in the context of the communication on "A new European agenda for research and innovation - Europe's chance to define its leadership position in technology" and the contributions of the informal leaders' dinner in Sofia on 16 May 2018, the present guidelines are updated following the adoption of the European industrial and SME strategies[2] and the Recovery and Resilience Mechanism [9].

Description of the Problem

Public procurement of innovative solutions (IPPs) facilitates the wide diffusion of innovative solutions in the market. IPPs provide sufficient demand to incentivize the industry to invest in broad commercialization to bring innovative solutions to market at the quality and price needed for mass market implementation. This enables the public sector to modernize public services with better value for money solutions and provides better growth opportunities for companies [4].

Methodology and Data

To carry out the study, the authors applied traditional research methods: monographic method, document analysis, comparison, trend analysis, etc. The objectives of the article denote: clarifying the concept of public procurement in the field of innovation, its global dimension and

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its added value. policy framework, illustrates how public procurement can be opened up for innovators, including start-ups and innovative SMEs. The material presented is intended for the academic environment, relevant institutions, organizations in the field of protection the environment, as well as to all those interested in the innovative public procurement processes.

Results

The new legislative[1] framework in the field of public procurement in the EU brings with it an extraordinary change in the way of working for procurement and requires a rethinking regarding the organization and capacities of public authorities.

In practice, the contracting authorities and institutions will have to go beyond, within procurement procedures, the stage of strict application of legal provisions, pursuing the strategic use of public procurement, so as to include in the selection of objective procurements important environmental and social as well as innovation potentials [3]. The main objective of the complex public procurement reform is for procurement to bring considerable benefit to society for long-term sustainable development, not only on the basis of the lowest price.

For the purposes of Directive 2014/24/EU, article 2(22) defines "innovation" as "the creation of a new or significantly improved product, service or process, including but not limited to manufacturing, building or construction, of a new method of marketing or a new method of organizing business practice, the workplace or external relations, among others, with the aim of contributing to solving societal challenges or supporting the Europe 2020 strategy for smart growth , ecological and favorable to inclusion" [1].

In the Oslo Manual 2018 [5], the OECD defines innovation as "a new or improved product or process (or a combination thereof) that differs significantly from the establishment's previous products or processes and that has been made available to potential users (as a product) or put into operation by the unit (as a process)'.

By definition, innovative public procurement is the purchase of a new or better product or service that improves the productivity, quality, sustainability and impact of the public sector. In innovative public procurement, the object can be represented by results, effectiveness, performance, quality or operational requirements [7].

Public procurement of innovative solutions occurs when the public sector uses its purchasing power to act as an early adopter of innovative solutions that are not yet available on a large-scale commercial basis [4]. *The first step* in using PPI is the formation of a critical mass of demand-side purchasing power (a sufficiently large buyer or several smaller buyers in a group of buyers). One that can spur industry to scale up production to bring solutions to market with the price and quality requirements for large-scale deployment.

For the *second stage*, the acquirer makes an early announcement of the innovation needs (with the required functionality or performance and possibly also the price requirements)[4]. They express their intention to buy a critical mass of innovative products if the industry can bring them to market with predefined price/quality requirements by a certain date. Buyers may want to perform conformity testing of solutions from suppliers who have presented potential solutions by the pre-styled target date. This is done to verify that there are indeed solutions that can meet their needs, before actually procuring the innovative solutions. .

The third step is the actual public procurement of innovative solutions through one of the existing public procurement procedures (e.g., open or negotiated procedure, competitive dialogue, etc.).

IPP is therefore complementary to pre-commercial procurement (PCP), as IPP can enable the larger scale implementation of solutions that were developed in small quantities in a previous PCP. IPP can also be used independently, to bring to market innovative solutions that do not

result from research and development, but for example from organizational or process innovation.

Differences between pre-commercial procurement (PCP) and innovative procurement (IPP):

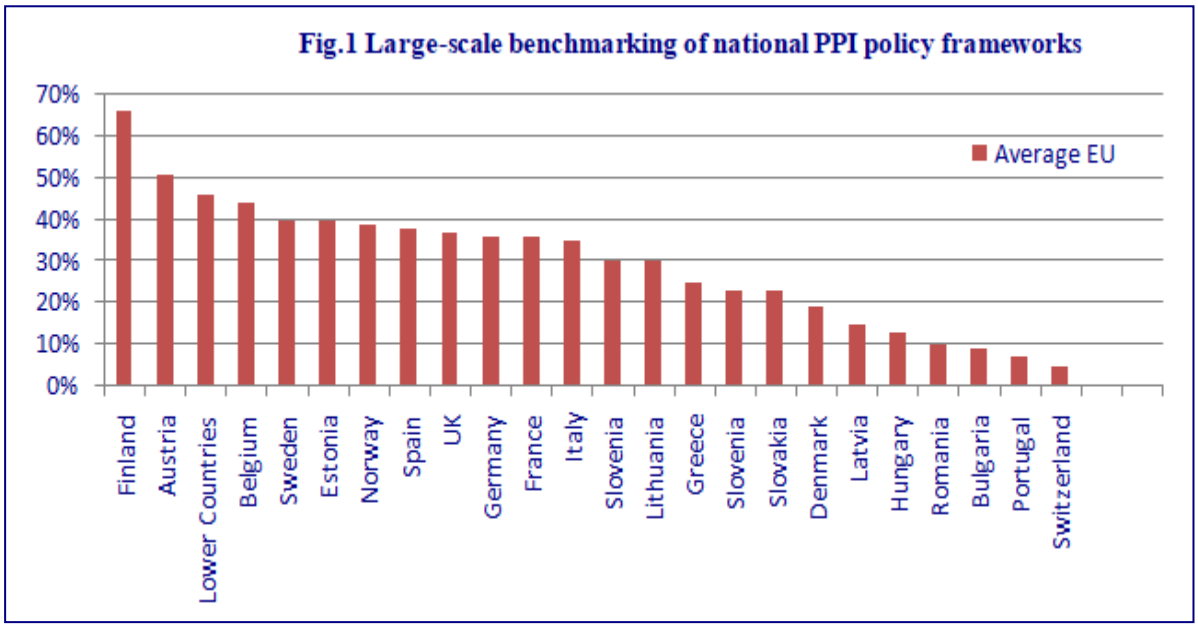
Table 1

Differences between pre-commercial procurement (PCP) and innovative procurement (IPP)

Category	PCP	IPP
When?	It requires R&D to develop new solutions. Clarification of problems, but arguments for / against regarding the fact that the solutions entered in the competition are not yet compared / validated. Lack of commitment to implementation.	Requires solution that is almost on the market / it is already on the market in small quantities, but does not yet meet the public sector requirements for large-scale implementation.
What?	The public sector purchases R&D to direct the development of solutions to its needs, to accumulate knowledge about the pros / cons of alternative solutions and avoid supplier lock-in afterwards.	The public sector acts as a product launch customer / early adopter / first buyer for new innovative products and services on the market.
How?	The public sector buys R&D from several suppliers in parallel (comparing alternative solution approaches) in the form of competition, evaluating progress after milestones, risks and benefits assumed with suppliers to increase stimulation of large-scale commercialization.	The public sector acts as a facilitator by establishing a group of buyers with critical mass to stimulate the growth of the production chain, so that products are brought to the market with the desired quality / price ratio in a certain period of time. After a trial or certification, the buyer group purchases a significant volume of products.

Source: [7]

Therefore, strengthening pre-commercial procurement (PCP) and innovative procurement (IPP) in the development of a more strategic policy framework on public procurement in the field of innovation in Europe could contribute to increasing the competitiveness of the European economy [4].



Source: [6]

Figure 1 above shows the large-scale benchmarking of national innovation procurement policy frameworks in the EU. In Europe, four Member States (Austria, Belgium, Finland and the Netherlands) have adopted an action plan dedicated to public procurement in the field of innovation, and five other Member States (Denmark, Estonia, Greece, France and Sweden) have included specific objectives and concrete measures on innovation public procurement in broader national strategies or programmes, often with a specific budget and a clear commitment from key actors.

Conclusions

Taking into account the above, innovative public procurement addresses issues of how it brings the greatest added value in terms of quality, cost-effectiveness, social and environmental impact and whether it brings opportunities for the supplier market.

Technology-based innovation, digitization and global megatrends such as artificial intelligence and the circular economy offer immense opportunities but also create new challenges. Global competition is intensifying and threatening Europe's leading competitive position in industrial sectors. Europe needs to strengthen its innovation capacity to maintain and improve the European way of life.

There are a number of funding sources that provide financial incentives to induce public purchasers to engage in innovation procurement. Funding can cover many of the additional costs associated with innovative public procurement, such as the cost of procurement preparation and management, preliminary market consultation, negotiations, research and development (e.g., prototyping, testing and certification), mobilization of technical or legal expertise specific, administrative procedures, etc. It can also offset the costs of cultural change and changing habits.

They open the way to higher quality and more efficient solutions that appreciate social and environmental benefits, improve cost-effectiveness and bring new business opportunities for enterprises.

Future Directions

The public authorities must support the actions on the guidelines that aim [4]:

• to provide arguments for carrying out an economic analysis for public procurement in the field of innovation;

• to suggest policy actions to provide the necessary political and organizational support for innovative projects

• to support the avoidance of uncertainties based on the explanation of the EU legal framework for public procurement applied in innovative procedures.

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CIRCULAR ECONOMY – ZERO WASTE STRATEGY FOR THE COMMUNITIES OF THE REPUBLIC OF MOLDOVA

Elena RUSU[73]

Abstract:

In this article, the authors aim to cross the path of waste circularity from collection to recycling, but also to identify good practices in the organization of selective waste collection, as well as existing intelligent solutions, which will allow the optimization of processes within the waste management system. The presented material is intended for the academic environment, relevant institutions, organizations in the field of environmental protection, as well as all those interested in the circular economy and the processes related to waste collection.

Keywords: *circular economy, "3Rs", "9Rs", waste management, energy conservation, biodiversity education, climate change.*

JEL classification: Q53, Q54, Q56.

Introduction

The circular economy is a model of production and consumption that reflects the reuse, repair, recycling and refurbishment of existing materials and products as much as possible in order to extend their life cycle. An influence on the development of the circular economy concept is the active involvement of all interested factors (public authorities, the business environment, research institutes and non-governmental organizations).

Access to education for a circular economy can be ensured by any existing initiative within the protection sphere environment: energy conservation, waste management, biodiversity education, climate change

Description of the Problem

Waste management represents one of the important problems faced by the Republic of Moldova in environmental protection activities. Currently, the problem of waste is becoming increasingly acute, due to the increase in its quantity and diversity, as well as its increasingly pronounced negative impact on the environment. The urban and industrial development of localities, as well as the general increase in the standard of living of the population, leads to the production of increasingly large amounts of waste. The basic objectives of the current policy of the European Union regarding waste, to which we are going to align ourselves, consist in the prevention of waste generation and in the promotion of reuse, recycling and recovery to ensure environmental protection. Waste is increasingly perceived as a source of valuable raw material for the industrial sector, with approaches such as reuse, recycling and energy recovery, regulation of packaging waste, end-of-life vehicles, equipment waste is applied electrical and electronic, biodegradable waste and tires.

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Methodology and Data

To carry out the study, the authors applied traditional research methods: monographic method, document analysis, comparison, trend analysis, etc. The conclusions that resulted from the analysis of documents, reports and case studies confirm the hypothesis that the circular economy is an important lever in achieving the strategies and policies of sustainable development of the Republic of Moldova. The material presented is intended for the academic environment, relevant institutions, organizations in the field of protection the environment, as well as to all those interested in the circular economy and waste collection processes.

Results

The idea of circularity or closing the economic loop appeared in 1976 in the report "The potential to substitute the human workforce for energy", presenting the vision of an economic loop in relation to the creation of new jobs, the increase in economic completeness , saving resources and preventing waste.

The European Commission defines the notion of a circular economy in which "the value of products and materials is maintained as much as possible; waste and resource use are minimized, and when a product reaches the end of its life, it is reused to create additional value; this can bring major economic benefits, contributing to innovation, economic growth and job creation." [6] Thus, there is a need to adopt a circular economy model because the world's population is constantly growing, the supply of primary raw materials is limited. Some EU countries depend on others for raw materials. And their extraction leads to increased energy consumption and CO2 emissions.[4]

The circular economy was originally based on three key principles, called "3Rs": reduce - reuse - recycle, eventually transformed into "9Rs" (refuse, rethink, reduce, reuse, repair, renovate, remanufacture, repurpose, recycle, recover), where waste is raw material. The waste production process cannot be completely stopped, but each of us can adopt ecological behavior to have a positive impact. [9]

Waste management represents one of the important problems faced by the Republic of Moldova in environmental protection activities. The problem of waste is becoming increasingly acute nowadays, due to the increase in its quantity and diversity, as well as its increasingly pronounced negative impact on the environment. The urban and industrial development of localities, as well as the general increase in the standard of living of the population, leads to the production of increasingly large amounts of waste.[8] The basic objectives of the current policy of the European Union regarding waste, to which we are going to align ourselves, consist in the prevention of waste generation and in the promotion of reuse, recycling and recovery to ensure environmental protection.

A big problem for the Republic of Moldova is represented by unauthorized dumps that persist over time. In most cases, landfills are non-compliant, since they do not have the necessary facilities to ensure environmental protection, there are no drainage and leachate evacuation systems, a fact that it can lead to water leaks from and on the surface of the deposit with concentrations of pollutants (ammonium, nitrates, copper, zinc, etc.). Non-degradable waste (plastics, metals, electronic waste, household appliances) are stored without separation, together with biodegradable waste, thus creating conditions for the solubilization of metal parts by the acidic waters generated by the fermentation processes. [7]

For certain types of waste, there are practically no viable recycling options at national level (for example, for glass, there is both a relatively low technical capacity of glass factories to process waste and a lack of interest, given the quality poor value of the supplied glass waste, respectively the additional costs that would be necessary to obtain waste of the appropriate quality). Recycling is a concept of the 20th century and emerged as one of the possibilities to

limit waste and use resources more efficiently. It has become increasingly clear that industrialization and sustained population growth have led to the consumption of ever greater amounts of resources.

The interest in recycling is greater in the case of metal, plastic and paper, but even here relatively important quantities are recorded which are collected separately and then transported outside the borders of the Republic of Moldova for the actual recycling. Outdated legislation does not motivate private companies working in the sector where public participation is of major importance, therefore they avoid this sector and the few who enter the system cannot reach the increased level of development due to the many obstacles they face.[3]

In the field of recycling, we find the following strategies:

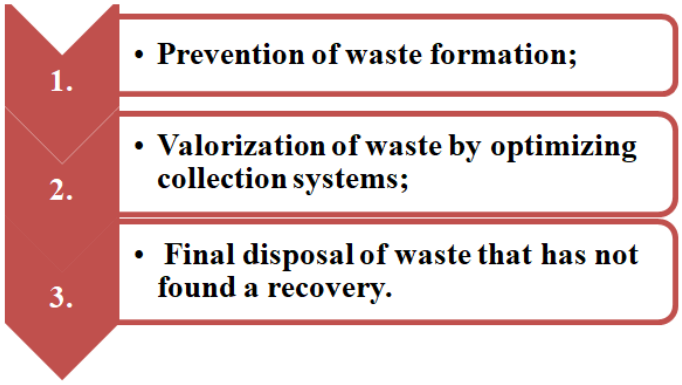
1.
• Prevention of waste formation;
2.
• Valorization of waste by optimizing collection systems;
3.
• Final disposal of waste that has not found a recovery.

Fig.1 Strategies in the field of recycling

Source: Developed by the authors based on the source [1].

Thus, the use of the mentioned strategies results in the following effects:

- reducing the amount of energy and raw materials needed to manufacture new products;
- reducing the quantities stored at landfills or incinerators;
- putting important amounts of raw material back into the economic circuit;
- reduction of air and water pollution;
- reducing the risks to our health and the environment, caused by improper disposal of hazardous waste.

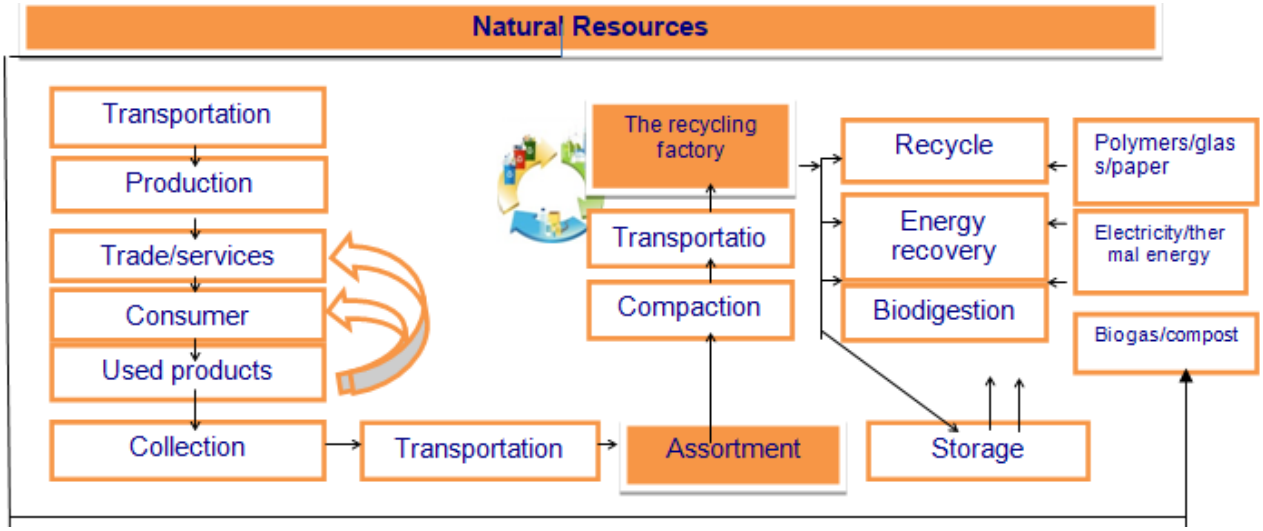

Fig. 2 Waste route from collection to recycling

Source: Developed by authors based on source [2]

The waste management process through the collection model takes place through the separate collection of waste in specially arranged bins, the transport of waste to the sorting station, the sorting of waste, including baling of waste, transport of waste to the recycling plant, where the recycling of the collected waste takes place by obtaining the new product. Part of this waste can be recycled (solvents, oil etc.). Others must be stored in places specially designed for hazardous waste (see fig.2).

In the Republic of Moldova there are 60 operators who hold environmental authorizations for waste management, of which 5 operators hold authorization for the collection and transport of household waste, 2 operators (Î.M.,,Gospodăria Comunală Străseni" and S.R.L.,,SALUBRIS GRUP ") hold authorization for the collection and transportation of municipal waste and an operator (S.R.L. ,,ABS") that holds authorization for the collection, transportation, sorting, temporary storage and treatment (composting and baling) of municipal waste. One of the largest operators serving the municipality of Chisinau is Î.M. Auto Sanitation Directorate. The activity of this operator is aimed at collecting and transporting household waste to the municipal landfill. About 5000 m3 of household waste are evacuated from the city every day. Below are presented the tariffs for the collection and transportation of solid household waste, for the services provided to individuals and legal entities (table 1).

Table 1

Tariffs for the collection and transportation of solid household waste Î.M. Directing "Self-Salubrity"

Services for natural persons	**Rates**
Services provided to the population of Chisinau for 1 m3	without VAT – 55.50 lei
Monthly rate for one person	per block – 9.25 lei private sector – 18.50 lei
Legal person services	**Rates**
Solid household waste collection and transportation services provided to economic agents in the city of Chisinau for 1 m3	without VAT – 100.00 lei with VAT - 120.00 lei
Services for processing and burying 1 m3 of waste and transporting it to the landfill from economic agents and entities	without VAT – 20.00 lei with VAT - 24.00 lei

Source:[10]

Zero Waste for Communities/Cities is an eco-innovation model, implemented internationally, adapted to European and national legislation, recognized and promoted by the European Commission since 2013.[6] The Zero Waste Strategy for Communities/Cities was developed by Dr. Paul Connett, toxicologist, activist and scientist, for the purpose of eradicating waste locally and globally, without landfills or waste incinerators. Among the recommended measures are: separate collection at the source for recyclable and biodegradable waste; the implementation of economic instruments, such as "pay-as-you-throw", to motivate citizens to avoid waste production and to sort more and more correctly in their own household; promotion of the guarantee-return system, which is considered an effective tool for reducing plastic pollution of the seas and oceans; banning single-use plastic products and encouraging the marketing of products in bulk; encouraging urban mining (repair, reuse and recycling centers for furniture pieces, construction materials, electronics or other resources) through fiscal facilities; research and redesign for products that cannot be repaired, reused, composted or recycled.[5]

Conclusions

Waste management is one of the important problems faced by local public authorities. Currently, the problem of waste manifests itself more and more acutely, due to the increase in its quantity and diversity, as well as its increasingly pronounced negative impact on the environment. In the vast majority of rural and urban regions, the waste management service is limited only to the collection, transportation and storage of waste, without the procedure of separation or sorting, which is against the specific principles of the integrated waste management system.

The successful organization and implementation of an integrated waste management system must be achieved by understanding institutional roles, applying effective techniques for monitoring the practical implementation of national legal requirements in the field of waste management, knowing the best practices in the field, including normative instruments necessary for the organization of the integrated management system. At the same time, the local public authorities must direct their efforts towards the development of the infrastructure in localities for the implementation of the principles of the integrated waste management system, the development of the management of the operation of the communal household public service for the purpose of waste management by applying the principles of the circular economy, the development of practices and services regarding separate collection and waste recycling.

It is imperative to increase the degree of involvement of local authorities in achieving the separate collection of municipal waste, at the source of organic waste, both through awareness and coercion. The goal is to increase the amount of recyclable waste, especially post-consumer, that will be recycled or reused. In this sense, we believe that it is important to develop and achieve an integrated vision, in the medium and long term, at the level of local public administrations on the circular economy.

Future Directions

In order to implement a sustainable solid waste management system, the following measures need to be applied:

-creating premises for the separate collection of waste. This option involves the separate collection of 4 types of solid waste at the source (in households) or at collection points/platforms.

-encouraging the composting and reuse of manure is necessary, both at the level of the individual household and at the level of the local public service. Thus, an infrastructure that aspires to EU standards for the disposal of municipal solid waste would be developed and a reduction of the costs necessary for the final disposal of waste with low environmental impact would be achieved.

-separate waste collection would promote the establishment of economically viable sanitation services. In order to carry out the separate collection of waste, waste generators must have waste separation means.

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ADAPTATION OF THE BULGARIAN ECONOMY TO DIGITAL TRANSFORMATION CHALLENGES: EMPIRICAL EVALUATION

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Abstract:

The paper focuses on the challenges facing the Bulgarian economy in terms of the new model of European integration in the EU's Single Digital Market in the (post)pandemic Covid-19 realities at the macroeconomic level through an empirical study of adaptation to digital transition. The empirical evaluation proves the hypothesis that the transition to a digital economy in Bulgaria is associated with growth in GDP and an improvement in the country's human development index for the research period 2010 - 2020. Yet, there exist institutional weaknesses in the regulatory and business environment of Bulgaria, due to which the current technological divergence compared to the average levels in the EU will be expected to deepen in the next decade, which will represent an obstacle to the faster integration of Bulgaria into the Single Digital Market of the EU. This necessitates a change in the financing of investments for an accelerated sustainable digital transition of the Bulgarian economy by strengthening the levers of institutional intervention (at the national and supranational level) and over-regulation of the activities of economic entities with the resulting restrictions and risks.

Keywords: *technological adaptation, digital transformation, factors of digital transformation, sustainability*

JEL classification: *E00, L26, O33*

Introduction

The digital transformation of the economy is associated with deep structural changes in such areas of production as the construction of new value chains with a local and regional focus based on new technologies (technological algorithms, artificial intelligence, blockchain technologies, the Internet of things, cloud technologies, etc.), digital business models and digital investment solutions (WEF, 2020). Important advantages of technological transformation include optimization of the production management process, decentralization, transparency, reduction of operating costs, etc. However, these processes raise serious challenges for SMEs, which require attracting significant financial resources for readjustment (in terms of resource productivity) to the new technological realities and the new digital paradigm for business operations in the Fourth Industrial Revolution. The theory of sustainable development requires the integration of economic development with social inclusion and environmental protection. This points to the connecting role of technology and the transition to a digital economy for a complete transformation of production processes and relations, the distribution and consumption of goods in the course of the Fourth Industrial Revolution in the world, the “great reset” (Schwab, K.et al., 2020) and the importance of moderate

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"stakeholder/inclusive capitalism" (WEF, 2020) in the interest of all stakeholders in the context of Covid-19 (UN, 2015) by applying the "better and broader recovery" approach (WEF, 2021).

According to Oxford Economics Research (2011), the digital economy is associated with the "third wave" of capitalism (the first wave refers to the period of emergence of joint-stock companies, the second wave - the discovery of the telegraph and the construction of the railway infrastructure), in which conditions are created for risk-taking through resource allocation and wealth creation through information transfer, cloud storage and sharing, etc. technologies. The "digital capitalism" involves the exchange of data through algorithmic mechanisms (based on artificial intelligence) with a view to realizing corporate profits from large digital platforms, which raises questions about the moral boundary in the use of digital technologies (i.e., protection of human rights and freedoms), the problems of digital marginalization, cybercrime, etc.

The aim of the paper is to focus on the challenges facing the adaptation of the Bulgarian economy to the new model of European integration in the EU's Single Digital Market in the (post)pandemic Covid-19 realities at the macroeconomic level through an empirical study of variables affecting the digital transition of Bulgaria. Research limitations of the present paper include, among others: 1) the role of digitalization of financial services (generally included in the concepts of "fintech", "regtech", etc.); 2) aspects of digital security and data protection in the digital transformation of economic processes; 3) "green" growth of the digital economy.

Description of the Problem

The adaptation of Bulgarian business to the technologically-driven digital transition in Industry 4.0 requires in-depth analysis and implies a synthesis between a theoretical, economic, comparative and empirical approach to identify the weaknesses of Bulgaria's business and institutional environment, which lead to the technological divergence of the country compared to the average levels in EU. Among the problematic factors for Bulgaria should be considered the difficulties faced by innovative SMEs in accessing alternative forms of financing, the country's unsatisfactory positions in the rankings of international digital and innovation indices, and the "stylized" facts about Bulgaria's transition to a digital economy.

Bulgarian SMEs rarely use sources of financing from the capital market, mainly large companies provide a larger share of financing through the stock market due to credit history requirements and low volatility in revenues and profits. As for the venture financing market as an alternative source of capital for Bulgarian SMEs, there are obstacles such as information asymmetries, low activity of institutional investors, lack of institutional support. Venture capital financing of Bulgarian SMEs represents 0.018% of GDP by 2020 and remains concentrated in the ICT sector and related activities, predominantly in Sofia and the South-West planning region in general. Internal sources (retained earnings and sale of assets) have a major share in the financing of Bulgarian SMEs due to difficult access to bank financing in the course of the pandemic Covid-19 crisis and the general deterioration of the business environment in Bulgaria. The most common innovation activity among the most innovative Bulgarian companies (they are about 1/3 of all enterprises in Bulgaria) is associated with changes in business processes with a view to cost optimization. The group of high-tech fast-growing SMEs in Bulgaria is below 10% and confirms that the country does not have a sufficiently secured workforce with digital skills to generate high added value in high-tech productions and services.

Bulgaria's low investment levels in digital transition for the period 2010-2020 are also confirmed by the results in the EU Digital Economy and Society Index (DESI), according to which the country ranks last among the EU countries. In the European Innovation Scoreboard and the Regional Innovation Index of the EU, Bulgaria steadily maintains a place in the group of "emerging" modest innovators. The low innovation potential is associated with institutional

weaknesses ("captured" state, high corruption risk, undermining of democratic foundations and rule of law, etc.), but also the very low level of R&D spending, low investment in digital skills of human capital, limited cooperation between academic units, higher schools and business in technology transfer due to insufficient protection of intellectual property.

For Bulgaria, the analysis of the country's ranking in the international digital indices leads to the establishment of the following **stylized facts** about the transition to a digital economy:

•digital transformation at the national level is carried out as a priority by large enterprises (i.e., „global players"), which are closely integrated into the national innovation system and actively benefit from the existing technological infrastructure of Industry 4.0. Among SMEs that are characterized by an accelerated transition to digital transformation (so-called "digital leaders"), innovative start-up companies in the technological sectors stand out, realizing significant R&D expenses by attracting venture capital, undertaking productive and process innovations with an active strategy for integration into global value chains within Industry 4.0 (especially in digital industries such as mechanical engineering, electronics, ICT services, etc.), and which have an active patent and export business activity. According to UNIDO research (2019), between 0.14% and 1.5% of companies in developing countries are defined as "digital leaders" and important prerequisites for the emergence of such companies are the country's size (measured by GDP), a diversified industrial base, a well-functioning institutional framework;

•there are significant limitations in Bulgaria's national innovation system due to institutional and structural weaknesses at the macroeconomic level; lack of close integration between business - public administration - academia in the technological-digital transition. This requires building an adequate institutional, regulatory and legislative framework for Bulgaria's digital adaptation, promoting the development of the "eco" system of digital transformation (including financing through venture capital, encouraging entrepreneurship, public-private investments in R&D, etc.);

•declining rates of industrialization of production and falling innovation activity in the course of the global Covid-19 pandemic with limited incoming FDI in Bulgaria; weak economic growth, trend toward deglobalization of trade activities, rising inflationary expectations in the course of the external military conflict in Ukraine;

•lack of financial opportunities and limited access to external financing for SMEs to provide new technologies for the transition to a digital economy.

Challenges to the digital transformation of SMEs in Bulgaria exist in terms of:

•implementation of an institutional approach according to the strategic framework of Bulgaria to dynamize the growth of innovative start-up enterprises in high-tech sectors in conditions of external factors (military situation in Ukraine and problematic supply of energy sources) generating internal instability for Bulgaria with political, economic, financial and social consequences;

•the upcoming establishment of unified (common) data spaces, their ongoing upgrading and integration into the European spaces and increasing the intensity of their use by all interested parties and guaranteeing security in the digital space;

•so far 15 years of membership in the EU, Bulgaria continues to be a country with limited potential for innovation and technologically driven digital transition to Industry 4.0 due to an unsatisfactory level of financial and human capital in the conditions of a "captured" status with high levels of corrupt practices (Applied Research Foundation, 2021).

Methodology and Data

To assess the potential for a transition to a digital economy in Bulgaria, a two-stage multifactor regression analysis is applied for the period 2010-2020. In the first stage, the dependent variable is real GDP growth (source Eurostat), and in the second stage, the dependent variable is the index of human development of Bulgaria (Human Development Index, UN source).

The following factor variables for Bulgaria in the multiple regression analysis were identified:

- financing through risk capital as a percentage of GDP (source Eurostat);
- employment as a percentage of the total population (source Eurostat);
- electronic commerce as a percentage of total commerce (source Eurostat);
- e-government (source Eurostat);
- ICT sector as a percentage of GDP (source Eurostat);
- multifactor productivity (source Eurostat);
- readiness index for network connectivity (source World Economic Forum);
- index for the purposes of sustainable development (source UN);
- global innovation index (source WIPO);
- export of high-tech production as a % of total exports (source Eurostat).

The hypothesis (H_1) of the paper is: the transition to a digital economy in Bulgaria is associated with growth in GDP and with an improvement in the country's human development index for the research period 2010 - 2020.

The identification of the variables with the greatest influence on the growth of real GDP and the human development index in the transition to a digital economy for the period 2010 - 2020 is carried out by applying multiple regression analysis using the following equations:

In stage 1: $Y_{realGDPgrowth}=\beta+\beta_1X_1+\beta_2X_2+ \ldots\beta_pX_p + \varepsilon$ (1)

where: $Y_{realGDPgrowth}$ is the dependent variable real GDP growth;

X_1, X_2, X_p are independent variables

ε is the standard error

In stage 2: $Y_{human\ development\ index}=\beta+\beta_1X_1+\beta_2X_2+ \ldots\beta_pX_p + \varepsilon$ (2)

where: $Y_{human\ development\ index}$ is the dependent variable human development index.

Results

Using a least squares model (LSM) with multiple regression analysis, at stage 1 is tested the relationship between growth in real GDP and the factors: index of readiness for network connectivity (WEF Network), index for the purposes of sustainable development (Sustainable Development), global innovation index (Global Innovativeness), financing through venture capital as a percentage of GDP (Venture Capital), multifactor productivity (Multifactor Productivity) and ICT sector as a share of GDP (ICT GDP).

The following results were obtained:

Table 1

Least squares model, 2010-2020 observations used

Dependent variable: real GDP growth

	coefficient	standard error	z	p-value
const	-7,94416	2,88246	-2,756	0,0059***
WEF_Network	3,00031	0,268604	11,17	5,72e-029***
Venture Capital	0,399024	0,0757420	5,268	1,38e-07***
Multifactor Productivity	0,839710	0,100690	8,340	7,46e-017***
Sustainable_Development	-9,85846	0,569372	-17,31	3,65e-067***
Global_Innovativeness	4,63648	0,252682	18,35	3,36e-075***
ICT_GDP	4,09961	1,03077	3,977	6,97e-05***
Mean of the dependent variable			2,050000	
Standard deviation of the dependent variable			1,538506	
Sum of squares of residuals			4,244389	
Standard error of the regression			1,456775	
Simple coefficient of definition			0,885442	
Adjusted R-square			0,713604	
F (5,1)			376,5151	
P-value (F)			0,002651	
Log-likelihood			-7,475146	
Akaike information criterion			22,95029	
Bayesian information criterion Schwarz			22,11733	
Hannan-Quinn			19,61588	
rho			-0,105114	
Durbin-Watson			2,893754	

Source: own calculations

The multiple regression model is applicable as p-value (F) = 0.002651 < α = 0.05. From Table 1 above it is evident that the coefficients β before the included variables are smaller than α = 0.05.

Therefore, the multiple regression model has the form:

$$Y_{realGDPgrowth}=-7,94416+3,00031X_2+0,399024X_3+0,839710X_4-9,85846X_5+4,63648X_6+4,09961X_7 \quad (3)$$

The following statistically significant dependencies can be deduced from equation (3) above:

- a change in the value of the readiness index for network connectivity in Bulgaria by one unit is associated with an increase in real GDP by 3.00 units for the period 2010-2020;

- the improvement of the value of the index for the goals of sustainable development in Bulgaria by one unit is associated with a reduction of the real GDP by 9.85 units and this is related to

the significant investment costs for adapting the country to achieving the Sustainable Development Goals 2030 of the United Nations;

- the increase in the value of the global innovation index of Bulgaria by one unit is related to an increase in the real GDP by 4.63 units;

- the growth of the ICT sector as a percentage of GDP by one unit is associated with an increase in the real GDP of Bulgaria by 4.09 units for the considered period;

- the increase in financing through venture capital in Bulgaria is associated with an increase in real GDP for the analyzed period by 0.39 units;

- the growth of multifactorial productivity in Bulgaria is associated with growth of real GDP by 0.84.

From Table 1 above, it can be seen that the coefficient of determination is $R^2 = 0.88$ and shows that 88% of the change in the variance of the dependent variable $Y_{\text{growth of real GDP}}$ depends on the change in the statistically significant variables included in the LSM factor variables. The Durbin-Watson coefficient is 2.89 and reports the absence of autocorrelation in the analyzed statistical series.

As conclusions from stage 1, it can be summarized that the LSM and multiple regression analysis confirms that the transition to a digital economy in Bulgaria is associated with growth in GDP for the researched period 2010 - 2020 due to improvement in the values of the global innovation index, increase in the share of the ICT sector in the country's GDP and in the connectivity readiness index. On the other hand, however, the transition to a digital economy in Bulgaria leads to a decline in real GDP due to the needed re-adjustment in the socio-economic sphere and the requirements for significant investments to achieve the goals of sustainable development.

The results of linear regressions with the dependent variable human development index at **stage 2** indicate the following:

A multicollinearity test was applied due to the presence of variables with a correlation coefficient greater than 0.70. Application of the VIF (variance inflation factor) test to account for multicollinearity, establishes a VIF > 5 and requires the removal of the following variables from further analysis:

- employment as a percentage of the total population;

- electronic commerce (as % of total commerce);

- network connectivity readiness index.

Using a least squares model (LSM) with multiple regression analysis, at second stage is tested the dependence between the human development index of Bulgaria and the factors: financing through venture capital as a percentage of GDP (Venture Capital), multifactor productivity (Multifactor Productivity), index for sustainable development (Sustainable Development), global innovation index (Global Innovativeness), ICT sector as a percentage of GDP (ICT GDP), electronic government (E-Government), export of high-tech production as a percentage of total exports (High Tech Export).

The following results were obtained:

Table 2

Least squares model, 2010-2020 observations used

Dependent variable: Human Development Index

	coefficient	standard error	z	p-value
const	0,767502	0,00391094	196,2	2,94e-054***
Venture_Capital	0,000331921	0,000142246	2,333	0,0196**
Multifactor Productivity	0,002544670	0,000109525	23,23	2,08e-119***
ICT GDP	0,0163300	0,00139902	11,67	1,72e-031***
Sustainable Development	0,00840253	0,000641956	13,09	3,81e-039***
Global Innovativeness	0,00555648	0,000499688	11,12	1,00e-028***
E-Government	0,00023448	1,35847e-05	17,26	9,31e-067***
High Tech Export	0,01058671	0,00190785	5,549	2,87e-08***
Mean of the dependent variable			0.802333	
Standard deviation of the dependent variable			0.009341	
Sum of Squares of Residuals			0.000184	
Standard error of the regression			0.006058	
Simple coefficient of definition			0.737090	
Adjusted R-square			0.579344	
F (3,5)			38.90674	
P-value (F)			0.000686	
Log-likelihood			35.83162	
Akiake information criterion			-63.66324	
Bayesian information criterion Schwarz			-65.36568	
Hannan-Quinn			-65.36568	
rho			0.244650	
Durbin-Watson			2,297497	

Source: own calculations

The multiple regression model is applicable as p-value (F) = 0.000686 < α = 0.05. It is evident from Table 2 above that the coefficients β before the included variables are statistically significant, as they are smaller than α = 0.05.

Therefore, the multiple regression model has the form:

$Y_{human\ development\ index} = 0,767502 + 0,000331921X_1 + 0,00254467X_2 + 0,0163300X_3 + 0,00840253X_4$

$+0,00555648X_5+0,00023448X_6+0,01058671X_7$ (4)

The following statistically significant dependencies can be deduced from equation (4) above:

- an increase in venture capital financing as a percentage of GDP is associated with an insignificantly small increase in the human development index in Bulgaria by 0.0003 units;

- the growth of multifactor productivity is associated with a negligible growth of 0.001 in the human development index of Bulgaria for the period 2010-2020;

- the growth of the ICT sector as a percentage of GDP is related to the growth of the human development index by 0.016;

- the increase in the index for the purposes of sustainable development is related to a negligible increase in the human development index by 0.008;

- an increase in the value of the global innovation index is associated with a growth in the human development index by 0.006;

- the improvement in Bulgaria's e-governance is related to a growth in the human development index by 0.00023;

- the change in the export of high-tech production as a percentage of Bulgaria's total export for the considered period is associated with an increase in the human development index by 0.011 per country.

From Table 2 above, it can be seen that the corrected coefficient of determination $R^2 = 0.57$ and shows that 57% of the change in the variance of the dependent variable $Y_{\text{index of human development}}$ of Bulgaria depends on the change in the factor variables included in the statistical model. The Durbin-Watson coefficient is 2.297 and reports the absence of autocorrelation in the analyzed statistical series.

As conclusions from stage 2, it can be summarized that the statistical analysis confirms that the transition to a digital economy in Bulgaria is related to an improvement in the human development index for the research period 2010 - 2020, mainly due to the improvement of the export of high-tech production in the total export of the country and an increase in the share of the ICT sector in the GDP.

Conclusions

The successful transition to a technologically driven digital economy requires the creation of a favorable environment for digital transformation through structural transformations in the institutional framework and business environment, quantitatively and qualitatively assessed at the macroeconomic, regional and company level. An important element in the digital transition is the creation and maintenance of an innovation "ecosystem", which is linked to measures that promote digital business and state entrepreneurship through investments in human capital, R&D and innovation based on an established digital strategic framework and policy.

Regarding Bulgaria's adaptation to a technologically driven digital economy, the economic and empirical analysis leads to the establishment of the following conclusions at the macroeconomic level:

- a new strategic framework was adopted, with which the Bulgarian regulatory base is harmonized at the EU level in the direction of Bulgaria's integration into the Single Digital Market. Through various institutional mechanisms and instruments, it is planned to accelerate the digital transition of Bulgaria in order to reach average European levels in digital technologies by the end of the program period (stimulating R&D and innovation in priority areas of the economy and establishing a new sustainable model for financing stakeholders in the digital transition, etc.) with a view to overcoming weaknesses in the business and institutional environment;

- a challenge to the implementation of the new regulatory and institutional framework remains the successful imposition of the new open model of coordination and cooperation between all

interested parties to achieve the national goals for a high-tech and competitive economy of Bulgaria in the next decade;

- the empirical evaluation of the potential for Bulgaria's transition to a digital economy for the period 2010-2020 confirms the hypothesis that the transition to a digital economy in Bulgaria is associated with growth in GDP per capita and an improvement in the index of human development. The most influential factors in the course of Bulgaria's digital transition are the improved position in the country's global innovation index for the analyzed period, a rise in the share of the ICT sector in the country's GDP, an improvement in Bulgaria's position in the connectivity readiness index, as well as an increase in the share of export of high-tech production in total exports of the country. On the other hand, however, the transition to a digital economy is associated with significant imbalances in real GDP for re-adjustments and investments to achieve sustainable development goals.

Future Directions

Important directions in future research on the digital transition are to extend and enrich the empirical and economic analysis with comparative analyzes of other developing countries in the Western Balkans with a view to the successful integration of the region into the EU Digital Single Market by the end of 2030. The research could be greatly enriched by regional comparative studies to empirically test the gap in economic development of urbanized and provincial regions of Western Balkan countries due to differences in connectivity and penetration of digital technologies.

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